EXHIBIT

8

KING

vs.

PARKER, et al.

JAMES WILLIAMS, M.D., M.SC.

January 04, 2022

Chattanooga (423)266-2332 Jackson (731)425-1222
Knoxville (865)329-9919 Nashville (615)595-0073 Memphis (901)522-4477
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IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF TENNESSEE
AT NASHVILLE

TERRY LYNN KING,

PLAINTIFF,

VS.

TONY PARKER, et al.,

DEFENDANTS.

CAPITAL CASE
CASE NO. 3:18-cv-01234
JUDGE CAMPBELL

Videoconference Deposition of:

JAMES S. WILLIAMS, M.D., M.Sc.

Taken on behalf of the Defendants
January 4, 2022

Commencing at 10:04 a.m.

Elite-Brentwood Reporting Services
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MELINDA CANTRELL, CCR, LCR, RPR
Chattanooga, Tennessee
(423)266-2332

A P P E A R A N C E S

For the Plaintiff:

MS. LYNNE LEONARD
MR. ALEX KURSMAN
MS. ANATASSIA BALDRIDGE
Attorneys at Law
Federal Community Defender Office - PAED
601 Walnut Street
Suite 545 West
Philadelphia, PA 19106
(215) 928-0520
lynne.leonard@fd.org
alex_kursman@fd.org
ana_baldridge@fd.org

MR. DAVID ESQUIVEL
MR. JEREMY GUNN
Attorneys at Law
Bass, Berry & Sims
150 Third Avenue South
Suite 2800
Nashville, TN 37201
(615) 742-6200
desquivel@bassberry.com
jeremy.gunn@bassberry.com

For the Defendant:

MR. KEVIN MITCHELL
MR. SCOTT SUTHERLAND
MR. CODY BRANDON
Attorneys at Law
Office of the Attorney General
State of Tennessee
P.O. Box 20207
Nashville, TN 37202-0207
(615) 741-3491
kevin.mitchell@ag.tn.gov
scott.sutherland@ag.tn.gov
cody.brandon@ag.tn.gov

Also present:

MR. JULES WELSH

I N D E X

E X H I B I T S

S T I P U L A T I O N S

The deposition of JAMES WILLIAMS, M.D., M.Sc., was taken by counsel for the Defendants, by agreement, via videoconference, on January 4, 2022, for all purposes under the Tennessee Rules of Civil Procedure.

All formalities as to caption, notice, statement of appearance, et cetera, are waived. All objections, except as to the form of the question, are reserved to the hearing, and that said deposition may be read and used in evidence in said cause of action in any trial thereon or any proceeding herein.

It is agreed that MELINDA CANTRELL, RPR, Licensed Court Reporter for the State of Tennessee, may swear the witness, and that the reading and signing of the completed deposition was not discussed.

* * *

MR. MITCHELL: Good morning, Dr. Williams. My name is Rob Mitchell and I'm with the Tennessee Attorney General's Office.

THE WITNESS: Nice to meet you.

MR. MITCHELL: Is there any preliminaries, Lynne, on your end, or Dr. Williams or Ms. Court Reporter?

THE COURT REPORTER: I would like everybody to introduce themselves for the record, once we get started.

MR. MITCHELL: Okay. Yeah.

THE COURT REPORTER: Yeah.

MR. MITCHELL: If there's nothing on your-all's end, I think we can go ahead and swear the witness.

* * *

MR. MITCHELL: Good morning, Dr. Williams. I know we introduced ourselves, but I'm Rob Mitchell on behalf of the defendant in this case. With me today, also appearing by Zoom, are several of my co-counsel: Scott Sutherland, Cody Brandon, and Dean Atyia.

THE WITNESS: Good morning.

MS. LEONARD: Good morning. My name is Lynne Leonard. I represent the plaintiff, Terry King, in this case. And along with me on the Zoom call are several of

my colleagues as well. From the Federal Community Defender Office in Philadelphia is Alex Kursman, Ana Baldrige, and one of our interns, our fellow, is observing us, Jules Welsh. And then we have some of my colleagues from the law firm Bass, Berry & Sims in Nashville, Tennessee, and that would be David Esquivel and Jeremy Gunn.

* * *

JAMES WILLIAMS, M.D., M.Sc.,

was called as a witness, and after having been duly sworn, testified as follows:

EXAMINATION

QUESTIONS BY MR. MITCHELL:

Q. Where are you located right now, Dr. Williams?

A. I live -- I'm in my home in Clyde, Texas.

Q. Okay. And what is that address?

A. My address is 5260 County Road 120, Clyde, Texas. C-L-Y-D-E.

Q. And is anyone in the room with you, Dr. Williams?

A. No. I'm by myself today.

Q. Okay. And have you given a deposition before?

A. Yes, sir, I have.

Q. Okay. How many times?

A. Probably in the nature of 15 to 20 depositions over my career.

Q. Okay. And what is that in front of you that's not your breakfast?

A. What's in front of me that's not my breakfast? My computer.

Q. Okay. Anything else?

A. And orange juice. I have a notepad and I have my cell phone, which is not on.

Q. Okay. And do you have your expert report or any other documents in front of you?

A. My expert report I have on my computer in front of me. That's it. I don't have any printed documents.

Q. Okay. And do you have anything else on your computer in front of you that is open?

A. No, just the Zoom meeting.

Q. And a couple of ground rules I would like to go over before we begin, Dr. Williams. I know you've taken a deposition before. Please ask me to repeat if you didn't hear what I've said, especially since we're over Zoom. Please ask me to clarify --

A. Certainly, I will.

Q. I'm sorry, what was that?

A. I said, certainly, I will.

Q. Thank you.

All right. Please ask me to clarify if I say something and you don't understand what I ask. And you

probably know this; breaks are fine. You just can't take a break between me asking a question and you answering. Can we agree to that?

A. We can.

Q. Okay. Thank you.

I'd like to show you -- just one second.

MR. MITCHELL: Is the screen share function available? Oh, there it is. Okay. I'm sorry.

BY MR. MITCHELL:

Q. I'd like to show you, Dr. Williams, Exhibit 1.

(WHEREUPON, a document was marked as Exhibit Number 1.)

BY MR. MITCHELL:

Q. Do you recognize this document?

A. I'm not seeing a screen share here.

Q. Okay. Do you see this now?

A. Yes, I do.

Q. Okay. And have you seen this document before?

A. Yes, I have.

Q. Okay. And is this a Notice of Subpoena for your deposition today?

A. I believe it is, yes.

Q. And also to produce documents?

A. Yes, sir.

Q. Okay. And did you produce documents to your

attorney?

A. I produced documents to my attorney in conjunction with their advice, yeah.

Q. Okay. And what documents did you produce to your attorney?

A. I don't have the list in front of me. Along with my deposition, I provided the list of my sources that I used in preparing the -- the report. They have copies of my Curriculum Vitae, my bona fides, and so forth.

Q. Okay. Did you also produce the documents that are listed in this Attachment A to the subpoena?

A. Some of them I did not.

Q. Okay. Did you produce your entire file in this litigation?

A. Well, yes, I guess I did. I don't have the paper file. I have documents on my computer that are at different locations, e-mails and so forth. I suppose you could say that constitutes a file, but that's it.

Q. Did you produce those e-mails to your attorney?

A. Since they're between myself and my attorney, they have them, yes.

Q. Okay. And did you produce all documents and communications regarding this litigation to your attorney?

A. Since all the communications are with my attorney, yes.

Q. So you have no communications regarding this case that aren't with your attorney?
A. Correct.
Q. Okay. Did you complete -- or did you provide your attorneys with time and billing records?
A. I have not done so yet, no.
Q. Okay. And did you provide your attorneys with all documents and communications that you cited or relied on in drafting your expert report?
A. Yes, I did.
Q. Including any documents that you did not rely upon?
A. Documents I did not rely upon? Well, that would, you know, be the entire Alexandria Library, so I did not give them that, no.
Q. Are there any documents you reviewed in preparation for your expert report but ultimately chose not to rely upon, when submitting your expert report?
A. There would be a -- the short answer is yes.
Q. Okay. What are those documents?
A. My library. I have read hundreds of books and papers on issues of the death penalty and then the medical issues related thereto. Essentially, it's a topic that I've been studying, to some degree, at least ten to 15 years, so there's a tremendous amount of material, most

of which is not actually in my possession; library -- library searches, Medline searches, online searches of documents relating to the medical -- medical aspects of -- of inflicting death through various means, and these are -- these are -- it's an enormous compendium of sources that I've read.

Q. Are there documents in your possession that have influenced your testimony today that you did not provide to your attorneys in this litigation?

A. Not that I'm aware of.

Q. And have you provided to your attorneys all documents and communications showing that you are sufficiently qualified to testify an expert -- as an expert in this case?

A. I believe they have received all those documents, yes.

Q. Did you rely on any documents or communications prepared by other experts that influenced your testimony today?

A. Not in the -- not in the preparation of my document. But since that document was written, I have been in communication with a -- I attended the trial of a -- a gentleman on trial -- sorry, on death row in Nevada. So I did have access to information at that trial that I haven't had prior to this, and so that -- that does,

necessarily, play into my -- my testimony today, uh-huh.

Q. And what is the name of that man in Nevada?

A. It's not Mr. Floyd, is it? I'm sorry, I don't tend to keep these names foremost my mind.

Q. And are you looking at anything, Dr. Williams?

A. I'm looking at my screen to try and minimize this so I can bring up the file from Nevada.

Q. And I'm going to -- I'm going to request that you don't look at anything other than what I show you during the course of this deposition.

A. Okay. Fair enough.

Q. Do you remember --

A. I don't recall the -- I don't recall the plaintiff's name, no.

Q. What was it in that Nevada litigation that subsequently came to your attention that will affect your testimony today?

A. Well, it may affect my testimony. I had discussions with two of my colleagues, Dr. Zivot and the other gentleman, I -- his name escapes me as well. And I must be -- I must be clear here, Mr. Mitchell, I have developed a lifelong habit of not remembering names. As an ER physician, I try to remember the details of the patient.

The joke that I make is that if you don't have a

name tag or toe tag, I don't know who you are. This is, in part, a habit in perfecting patient confidentiality. But I've always been rather absent-minded when it comes to names, so I don't recall names real well.

Nonetheless, Dr. Zivot gave testimony at the trial in Nevada, which I'm sure you've read about the -- some of the problems related to execution by lethal injection. He brought up some points that I had not considered before just by having quite a lot of reading on the topic of execution by lethal injection.

And he also brought up some facts, not just arguments, but facts that I was not aware of -- in terms of the history of lethal injection that I was not aware of. Those, necessarily, colored my view of executions and the practicality and efficacy of them. But they don't -- they don't color my testimony on the -- on the facts that I'm being asked to be an expert on, which is death by gunshot wound and firing squad.

Q. What sort of expert is Dr. Zivot?

A. Dr. Zivot is an intensive care specialist. I believe his -- his board certification is anesthesiology.

Q. After Dr. Zivot testified in Nevada, how did your opinion regarding executions change?

A. My general opinion did not change at all. My concern as to the reliability of execution by lethal

injection was raised somewhat. But I've already been fairly skeptical in some aspects of the efficacy and efficiency of death by lethal injection already, so I wouldn't say it substantially changed my views.

Q. Did Dr. Zivot's testimony change your views regarding execution by firing squad?

A. Not at all.

Q. And what sort of expert was the other Nevada expert who affected your testimony today?

A. The name that comes to my mind is Dr. Freeman, but I think I've got that wrong. I think I'm confusing him with another fellow from a different situation. He was also an anesthesiologist, and he was testifying, again, on the issues of -- specifically to the pharmacology and pharmacokinetics of the drugs -- some of the particular drugs being proposed for death by lethal injection in Nevada.

Q. Dr. Williams, are you under the influence of anything today, including any medications, that could hinder your ability to testify truthfully?

A. I am not.

Q. Do you have any medical condition that could affect your testimony today?

A. I do not.

Q. Did you speak to anyone to prepare for your

testimony today?

A. I spoke with the attorneys for the case, for Mr. King.

Q. Which attorneys were those?

A. I spoke with Alex Kursman, Lynne Leonard, I believe it was Mr. Esquivel. There were three people on the call last night.

Q. Okay.

A. And I've had extensive --

Q. And --

A. -- communication with Alex Kursman and Lynne Leonard over the past couple of weeks.

Q. Were those other communications that were not the call last night phone, e-mails, Teams? What medium was used?

A. Cell phone calls, primarily, and -- I should say e-mails, primarily, with some telephone calls to clarify certain points.

Q. And were those all after you submitted your expert report in this case?

A. Well, in terms of preparation for deposition, yes.

Q. How many times did you speak on the telephone with Mr. Kursman?

A. Yesterday, I spoke with him twice. Prior to that, I think I've spoken to him once this year. And before

that, it was four to six months since I spoke with him.
Q. This year being 2022?
A. In 2022, yeah.
Q. And how many times -- was Ms. Leonard on all of those calls?
A. No. No. There have been a couple of calls with just Mr. Kursman and myself and a couple of calls with Ms. Leonard and myself.
Q. How many calls have you had, since submitting your report, with just Ms. Leonard?
A. Two or three, maybe. Actually, it may not be even that many. It might've been just one or two.
Q. Other than your attorneys, did you speak with anyone to prepare for your testimony today?
A. I did not.
Q. Did your attorneys read anything to you in preparation for your testimony today?
A. No, I don't recall them reading anything to me.
Q. Did you review any documents to prepare for your testimony today?
A. Yes. I reviewed my reports. I reviewed your subpoena. I reviewed -- with respect to this case? I reviewed -- yes, I reviewed some materials in -- in preparation for this case. I reviewed Dr. Lee's expert report, which you submitted, and I reviewed some of the

documents that he had cited, as well as some other supporting documents that colored my response to that.

Q. What supporting documents were those?

A. Primarily, his would be -- well, it was Vincent -- Dr. Vincent Di Maio's book, "Gunshot Wounds," which I'm sure you're familiar with. And in addition to that, a couple of references that Dr. Di Maio makes, which are academic papers, which I have looked up online.

Q. Academic papers that Dr. Di Maio referenced, but did not author?

A. Correct.

Q. What are those academic papers?

A. Well, I could get the file out and seek through it, but there are -- I couldn't name them off the top of my head. But I did -- I have -- in specific, I looked at a couple of papers written by Dr. Fack -- Dr. Martin Fackler, late -- the late Dr. Fackler, who's arguably the dean of wound ballistics and the foremost expert in gunshot wound ballistics and gunshot wounding who's ever lived.

So I've reviewed a number of Dr. Fackler's papers, including the review paper, which I provided to my attorneys, which is -- which is a very good starting point. Dr. Di Maio did rely on that in preparing his book, and it does have some bearing on his -- on Dr. Lee's

comment.

Q. What other papers of Dr. Fackler did you review in anticipation of your testimony today?

A. I couldn't name them for you. I've got almost every paper that Dr. Fackler ever wrote in my files. Unfortunately, I don't have most of those files with me. We recently moved house and most of my files and books are in a storage unit. But I've read several hundred papers by Dr. Fackler.

Q. How many papers by Dr. Fackler have you read Di Maio's the last eight weeks?

A. Three or four. And I didn't read them cover -- you know, beginning to end. I just read the relevant portions that I wanted to refresh my memory on.

Q. In anticipation of your testimony today?

A. In anticipation of testimony here, as well as in preparation of another report for a different case. And for review for my testimony in Nevada in November, I reread a couple of Dr. Fackler's points as well.

Q. And what report were you preparing for a different case?

A. I've been preparing a report for the Pizzuto case in Idaho. In Mr. Floyd's case, I've reviewed my report for the Floyd case again, and that's -- going over my testimony in my head, so I wanted to review some of the

points I made to be sure that I had my facts correct, so that would primarily be it.

Q. Besides documents by Dr. Fackler and Dr. Di Maio, what other documents did you review in anticipation of your testimony today?

A. You have them in the list of references that I gave you. I looked at Lieutenant Colonel Grossman's books, "On Killing," "On Combat," on some issues. I did also look at -- what else did I look at? Did I look at -- I looked at a couple of anatomic texts, anatomy text books that I got for refreshers, in my mind, of some details of anatomy that probably -- that would be about the sum total of sources that I looked at.

Q. Any other sources you reviewed in anticipation of your testimony today that we have not discussed?

A. None that I can think of, sir.

Q. What were those anatomy textbooks that you reviewed?

A. One of them is -- the one that I relied mainly on is "Grant's Atlas of Anatomy," which is a common -- commonly reviewed source, and I can't recall the name of the other one. It's a photographic anatomy atlas out of the University of Cambridge. I've got a pocket copy of it that's very helpful.

Q. Besides that, did you review anything else in

anticipation of your testimony today?

A. Nothing that I can recall.

Q. Dr. Williams, where did you attend high school?

A. I attended high school at William Aberhart High School in Calvary, Alberta, Canada.

Q. And after high school, did you go to college?

A. I went to the university at the University of Calvary. I obtained a bachelor's degree in zoology.

Q. Okay. And what year was that?

A. I received my bachelor's degree in 1976.

Q. And after you received your bachelor's, did you pursue your education further?

A. I pursued another year of university education at the same institution to obtain a teaching credential so that I could teach school.

Q. And did you pursue your education after that?

A. Yes, sir. I taught school for eight years, and then I returned to the university to enter -- I took a one-year course of studies to get some grades behind me because I had been an indifferent student in my bachelor's program, decided to apply myself, get some good grades so I could get into graduate school. Did one year of that, obtained a very high GPA, did some tough courses.

And then I proceeded to enter a graduate program in endocrinology and biochemistry, which I started in 1989

-- sorry, 1985 -- wait, no, '86, January of '86. I entered that program and graduated in September of 1988 with a master's degree in biochemistry and endocrinology. I also entered, simultaneously -- as I was preparing to defend my thesis, I was accepted into and began studies at the University of Calvary. All my degrees are from the University of Calvary.

But before I finished my master's defense, I entered medical school at the University of Calvary Cumming School of Medicine and graduated from that university three years later with a medical degree.

Q. When you taught school for eight years, what did you teach?

A. Mostly kids. But I specialized in chemistry and biology. I did teach some physics and I taught some mathematics.

Q. And what year did you get your MD?

A. 1991.

Q. And that was from the University of Calvary?

A. Yes, sir.

Q. Where did you complete your residency?

A. At the University of Alberta.

Q. And did you have any particular emphasis of study when you pursued your MD?

A. I was very interested in endocrinology and

anesthesiology. I actually wanted to be an anesthesiologist, but I had -- unfortunately, I didn't have the finances to be able to afford that. I had three small children, so I took the shortest residency that I could take, which was family medicine.

Q. And what do you do professionally, Dr. Williams?

A. My primary occupation is as an emergency physician.

Q. Okay. And how long have you practiced emergency medicine?

A. I've been -- I was practicing emergency medicine, part-time, from 1993, when I began in private practice, until 2003, at which time I became a full-time emergency physician. In the precedent years, I practiced clinical family medicine with a -- basically, what we call -- used to call, in those days, general practice, which meant I did everything. I did obstetrics, I did surgery, I did pediatrics, geriatrics, and admitted to hospital, did hospitalist work, and I also covered the emergency room, you know, pretty much it.

Q. As an emergency physician, what are your responsibilities?

A. Well, when -- as the emergency services physician at any hospital has the responsibility of making the initial assessment examination and diagnosis of emergent

conditions that present to the emergency department, making appropriate tests and treatment as required, and then the settling on a disposition, whether discharge back into the community or admission to the hospital or transfer to another facility. So it's -- it's a complex job.

Q. Are those your responsibilities?

A. Yes, sir.

Q. Do you perform trauma-related surgery?

A. I do not do surgery in a sense that most people think of it as surgery. I perform emergency procedures on some trauma patients, which could be considered quasi-surgical, such as placement of chest tubes, which -- excuse me -- thoracostomies, which are procedures for either draining blood out of the chest or air out of the chest. I do quasi -- I do surg -- sorry -- venous and arterial cutdowns on occasion, but my services are primarily what would be called procedural as opposed to surgical.

Q. So you do not perform what people traditionally think of a surgery?

A. I do not.

Q. Where do you practice emergency medicine?

A. My primary place of practice, right now, is at Citizens Hospital in Victoria, Texas. I have a couple of

other hospitals that I do some part-time practice at; Pecos, which is Reeves County Hospital in Reeves County in West Texas, Saint Francis Hospital in Grand Island, Nebraska, and I also have privileges in a couple of hospitals in Wisconsin, but I don't practice there at this point.

Q. Are you an independent contractor at all of these hospitals?

A. I am.

Q. You said that being an emergency services physician is your primary job; is that correct?

A. That's correct.

Q. What other occupations do you have?

A. I have a clinic at -- two clinics, actually, one in Kingsville, Texas, and one in Abilene, Texas, which is very close to me here, where I do --

Q. What are the names of those clinics?

A. The name of my clinic is a PLLC called Anahata Wellness Center, and I specialize there in treatments for hormone replacement for men and women, as well as some minor cosmetic procedures, such as injections, fillers, and neurotoxins for cosmetic purposes.

Q. And do you have any other occupations other than those that we discussed?

A. I do conduct firearms training under the -- my

other company. My LLC is called Tactical Anatomy Systems, LLC. I conduct training for civilian, but primarily law enforcement personnel, in the use of deadly force.

Q. Do you own Tactical Anatomy Systems?

A. I do.

Q. Are there any other employees of Tactical Anatomy Systems?

A. There are not.

Q. Have there ever been any other employees?

A. No.

Q. How long have you operated Tactical Anatomy Systems?

A. I believe I incorporated Tactical Anatomy in '05 or '06. I'd have to look at the articles of incorporation. I was teaching that same material for about three years prior to incorporation.

Q. Does Tactical Anatomy have a website?

A. Yes.

Q. And is Tactical Anatomy incorporated in Texas?

A. It's incorporated in Wisconsin.

Q. Now, have you ever served as a SWAT team physician?

A. I have.

Q. For how long? How many years?

A. It was about -- I was on the -- on the SWAT team

for about two years.

Q. And were you on the SWAT team as a physician?

A. Yes.

Q. What were your duties as a SWAT team physician?

A. Primarily to provide consultation and instruction to the team members and to the administration of the sheriff's department, formulate medical care policies for the SWAT environment, to train the SWAT team members on principles of tactical combat casualty care, T3C, and to attend SWAT operations when it was feasible to do so, and attend as a fully functioning member of the SWAT team to provide oversight of care of any casualties that may occur at the SWAT operation.

Q. As a SWAT team physician, did you treat gunshot wounds?

A. I fortunately never had to treat a gunshot wound as -- as the team physician. I did treat some gunshot wounds that came from that same department, but I was not on those operations, and I treated them in the emergency department where I was on duty at the time.

Q. Did you perform surgery related to those gunshot wounds?

A. No. I do not perform surgery, as I previously testified.

Q. Do you have any other current medical employment?

A. I do not.
Q. Are you board certified, Dr. Williams?
A. I am board certified.
Q. By whom are you board certified?
A. I am certified by the American Board of Family Medicine.
Q. And how long have you been board certified by the American Board of Family Medicine?
A. Since 2008.
Q. And are you board certified by any other associations?
A. Yeah. I maintain -- it's not called board certification, but it's the equivalent in Canada. I'm certified by the College of Family Physicians of Canada.
Q. And how long have you been certified by the College of Family Physicians of Canada?
A. Since 2003. Sorry, 19 -- 19 -- 1993. I apologize, getting my decades mixed up.
Q. Do you belong to any professional associations, Dr. Williams?
A. I belong to the Texas -- Texas Medical Association, TMA. Am I still on -- I think I'm still a member of the American College of Sports Medicine, but I -- I'm really not very active with that, so I can't recall. I think my dues --

Q. Do you --
A. -- may have lapsed.
Q. Do you have an active membership in any other professional associations?
A. No, I do not.
Q. Do you consider yourself an expert in firearms, Dr. Williams?
A. Yes, I do, in some firearms.
Q. And what -- which firearms?
A. Primarily pistol, handguns.
Q. Do you consider yourself an expert in rifles?
A. I consider myself less expert, but I am certified as such, yes.
Q. By whom are you certified?
A. National Rifle Association.
Q. And --
A. I --
Q. Do you --
A. I also have expert -- I also have held expert qualification in rifle by the Department of Justice in the State of Wisconsin and by the sheriff's department in that -- that I served at. So I have expertise there, yes, in rifle.
Q. And on what basis do you consider yourself an expert in riflery?

A. On the basis of having been a lifelong rifle shooter, of being a life -- not a lifelong competitor, but I've been an active competitor in rifle competition and tend to place quite highly. I have been qualified as a sharpshooter under NRA guideline for qualification. I qualified as expert with my sheriff's department in Wisconsin. So those things would say that I'm an expert.

Q. Are there any other bases that lead you to consider yourself an expert in riflery?

A. Not any that you could point a finger at and say this is my certificate in it. But, no, having the amount of experience I have in the use of rifles, in competitive marksmanship, and in hunting, as well as in tactical training, these things would all speak to my expertise.

Q. Do you teach tactical training with the use of a rifle?

A. I do.

Q. And what does that training consist of?

A. It -- it varies. Most of my training is classroom training within the -- the Tactical Anatomy curriculum. But we do some training with police car beams; rifles in shot placement, under time and space to rest to -- the objective being to get the officers that I'm training to be able to place their shots more precisely for definitive incapacitation of their adversary, in the shortest

possible time.

Q. Is the focus of this rifle training how to aim a rifle?

A. I would say that's intrinsic in the training, but I don't teach people how to form a safe picture. When people come to me for my training, they are already -- they must already be operating at a fairly high level of proficiency with their firearms. In other words, they must be able to pass their department's qualification course of fire with pistol, rifle, and shotgun adequately -- and be expert enough with their own weaponry that they know how to aim themselves, without me having to teach them such a basis skill. I simply refine their ability to aim their rifle in such a way that it can produce a better outcome in an officer-involved shooting.

Q. Is it fair to say you teach them where to aim their rifle?

A. That would be fair.

Q. On what basis do you consider yourself an expert in handguns?

A. I have considerably more competition experience in handguns and considerably more training and -- and qualifications as a handgun instructor. I'm certified as a pistol instructor by the National Rifle Association. I'm also certified by SADAA (phonetic) group as a

fourth-level instructor.

I have -- what else have I got? Wisconsin Pistol Association did at one time qualify me as an instructor. I was the area coordinator for the in -- International Defensive Pistol Association for the State of Wisconsin for ten years, organizing pistol matches. And I was also a safety officer instructor for the International Defensive Pistol Association, in which I instructed the instructors, telling them how to teach people safe operation of their firearms in a competition environment.

Q. Is this in --

A. I'm also certified as a firearms instructor by the Wisconsin Department of Justice in pistol.

Q. Is there any other basis that we have not discussed upon which you consider yourself an expert in firearms?

A. No, I think we've pretty much covered it.

Q. Do you have any other experience that you relied on, in writing your report in this litigation?

A. Well, pretty much it all comes down to my firearms expertise and my medical expertise, which is a -- an amalgam of two lifelong bodies of study.

Q. Have you ever --

A. So that's about it.

Q. Have you ever shot a human being, Dr. Williams?

A. I have been fortunate not to do so.
Q. Have you ever been present when someone other than yourself received a gunshot wound?
A. Yes.
Q. How many times?
A. Once.
Q. Under what circumstances?
A. It was in a hospital emergency room where the individual was shot by a police officer as he was attempting to carry out an act of deadly force on the officer.
Q. Where was the individual shot?
A. In the leg.
Q. Did you treat the individual?
A. I did.
Q. And what year was this?
A. Somewhere between 2000 and 2003. I couldn't tell you the exact year.
Q. Have you ever been present when someone was shot in the chest?
A. Other than myself, no.
Q. Have you ever been present when someone was shot in the head?
A. No.
Q. How many people have you treated were shot in the

head?

A. Hard to say. Over 100, less than 200, somewhere in there. I would say 150.

Q. How many of those individuals do you estimate died from that wound to the head?

A. I couldn't say with any precision. It would be probably more than 80 percent.

Q. What does your treatment of those individuals generally consist of?

A. Of a head gunshot wound?

Q. Yes.

A. Well, my initial assessment is going to evaluate whether the individual is -- is conscious and breathing, maintaining his own airway. That's my first assessment. I follow the standard ABCs of trauma: If his airway's intact, that's good. If he's breathing, that's also good. Does he appear to have circulatory stability? Are his hemodynamics stable? Then I have to reassess whether he has some significant disability such that he's not able to control his airway. And then, if necessary, secure the airway by an intratracheal intubation. These are the emergent things that need to be gone.

Then the next -- the next step -- other than -- after that would be to do a complete survey of the individual, head-to-toe, to see if there's other wounds,

other issues I need to be concerned about. And then as soon as it's practicable and expedient, I get that individual to the CT scanner so we can find out what the heck is going on inside his head, find out where the bullets have gone, where the wounds are, what the damage is, and then proceed from there to -- to disposition. Of course, we obtain lab work as well.

But, generally speaking, most of the hospitals I've worked at, in my career, don't have neurosurgical capabilities, so that means the patient has to be transferred to a hospital that does have neurosurgical capability, unless the individual is already deceased, in which case transfer is not necessary. But most of the --

Q. Do you --

A. Most of the time they're transferred to a neurosurgeon.

Q. And you do not perform neurosurgery, do you?

A. I do not.

Q. Have you ever performed neurosurgery?

A. I've been present when neurosurgical procedures -- been there as an observer and an assistant a handful of times. Neurosurgery is not something I've looked into in great depth.

Q. But you have not performed neurosurgery yourself?

A. Sure have not.

Q. Have you ever had anyone come into your emergency room who had received four bullets to the head and was still able to return fire, after receiving these wounds?

A. Yeah. Yes.

Q. When was that?

A. That was sometime between 2003 and 2007, somewhere in there. We had a fellow was drunk in our county and he decided to -- I don't know what he decided -- but, anyway, he elected, in the circumstances of a domestic dispute, to pull a gun and fire upon the two officers, sheriff's department -- I think it was sheriff -- yeah, they were sheriff's officers, who were there to -- to intervene in the domestic situation.

The individual was fired upon by the officers and he was hit four times in the head, none of which were severe wounds. He was -- they were all peripheral wounds that affected the skin. One bullet tunneled under the scalp, both the earlobes were hit -- actually, no, the fourth bullet didn't hit his head, it hit his neck. Again, was a superficial wound.

All four wounds were superficial and the individual survived by treating in the emergency room with basic -- basic care, and then he was transferred to jail.

Q. And was the individual able to return fire on the officers, after receiving these four gunshot wounds to the

head?
A. I don't know whether he did or did not. But he was certainly capable of doing it, yes. He was conscious. He was alert. He was able to -- his judgment was intact. He was able to speak and answer questions. He had full use of all of his facilities, although he was intoxicated.
Q. Do you agree that there is a huge potential for a variant in outcomes, when someone is shot in the head?
A. Of course.
Q. Is one of those reasons for the potential for variance because the brain stem is very small?
A. That would be fairly low on my list of primary, but yeah, that's certainly true.
Q. Are you reviewing anything in front of you, Dr. Williams?
A. No, I'm just doodling.
Q. Can the brain stem be difficult to hit because it is small?
A. Any small target's hard to hit, sir.
Q. Including the brain stem?
A. Of course.
Q. Can the brain stem be difficult to hit because of the density of the bones in the skull?
A. Well, no. Hitting the brain stem with a bullet is a matter of firearms accuracy, and it's not really -- no,

no. The bones -- the density of the bones and skull are less of a concern than where you're actually aiming your bullet.

Even a .22-caliber bullet, a .22 rimfire, has enough energy to penetrate from any angle, provided the angle is -- is aimed precisely. It requires a perpendicular or nearly perpendicular of the bullet on the portion of the skull that your bullet has to pass through. If it's a tangent past a certain amount, 30 degrees, 45 degrees -- I couldn't tell you the precise angle -- once the angle of incidence is tangential enough, it will not penetrate the bone, but it will glance off and on to the scalp.

Q. So is it your testimony, Dr. Williams, that the density of the bones do not make it more difficult to hit the brain stem with a bullet?

A. In sum and in short, yes, that's true.

Q. Does the curvature of the skull's surface make it difficult to hit the brain stem?

A. It can be. It can be. If -- well, no, actually, it doesn't make it difficult to hit the brain stem at all because if you're aiming at the brain stem from any angle, you're not going to have to deal with -- with curvature of the skull because you'll be aiming at, virtually, a perpendicular angle; any presentation, 360, 360. XY is

the axis.

Q. Is it well documented in trauma literature that pistol bullets striking the human head at certain angles will glance off the bone of the skull and exit without penetrating the skull?

A. Yes.

Q. What trauma literature is that?

A. The medical trauma literature. I mean, you can read the articles to that nature in Journal of Trauma, Annals of Emergency Medicine, you name it. I'm sure you could find it in virtually all of the skull-related journals. Medical journals, trauma journals, you'll find reports on this type. It's just --

Q. Do you --

A. Okay.

Q. Do you know the names of any of those reports?

A. No, I don't have them at the top of my head.

Q. Do you know the names of any of those authors?

A. Many of them I will know if I looked at them, but no, I couldn't tell you one off the top of my head.

Q. Do you agree that with a random gunshot to the head, the chances of hitting the brain stem are 6 to 7 percent?

MS. LEONARD: Object to the form.

You can answer, Dr. Williams.

THE WITNESS: Oh, okay.

I couldn't tell you whether it's 6 to 7 percent, 15 percent, 30 percent. I've never seen that particular statistic, so I don't have an opinion on it.

BY MR. MITCHELL:

Q. So, in your opinion, it could be as much as 30 percent that a random shot to the head could hit the brain stem?

MS. LEONARD: Object to the form.

THE WITNESS: I'm sorry. I didn't answer you correctly, Mr. Mitchell. My comment was I have no idea what the percentage might be.

BY MR. MITCHELL:

Q. How many people have you treated, Dr. Williams, who were shot in the chest?

A. Several hundred.

Q. A thousand?

A. I don't think that many, but it might be getting close to it.

Q. How many of those individuals died of that gunshot wound to the chest?

A. Again, I don't know because I don't see most people after they've been through my emergency department. But my understanding is with -- and depending on the sources you use for the -- some of the most reliable data

that I think I've seen came out of Miami. Wasn't medical.

Miami Metro Dade did a study of lethality of gunshot wounds, and their estimate was that only about 6 percent of gunshot wounds sustained in the field -- handgun, gunshot wounds -- resulted in death. So those are gunshot wounds anywhere.

The people that I see who've been shot in the chest in the emergency room tend to be people who are pretty -- pretty badly injured. There are people who don't even come to the hospital after a gunshot wound, a very small minority of course. But all of these things make it difficult to estimate the lethality of a gunshot wound to the chest.

Outside of the central corridor of the chest, running the -- the middle portion and anterior portion to your presentation, there's a lot of -- a lot of air. There's a lot of non -- nonlethal structures that can be interdicted by a bullet, and they will produce relatively minor injury only and are very survivable.

So if I did a search on that, I could probably give you an estimate, but I'd say probably the number of people who die from their gunshot wounds, from their chest, is probably a minority of the cases and, maybe, as small as 30 to 40 percent, but I -- that's just a guess.

Q. How many rifle wounds to the chest have you

treated?
A. Quite a few less. Probably -- probably fewer than 200, maybe fewer than 100. I couldn't -- I don't keep records on these things, so this is just a general impression of my -- over the course of my career.
Q. Have you ever seen anyone die by lethal injection?
A. I have not.
Q. Have you ever served as an expert for any state department of corrections?
A. I've never testified as an expert for the department of corrections, no.
Q. Do you have any blogs, Dr. Williams?
A. Yes, I have a blog that I write, intermittently, on my website.
Q. What blog is that?
A. The tactical -- it's the Tactical Anatomy Systems website and it's just called blog.
Q. Do you have any other blogs?
A. No.
Q. What topics do you write about on that blog?
A. Typically, I write about issues of firearms, ammunition, gunshot wounding, police -- issues of police, law enforcement officers, and military imports; issues of the day that affect law enforcement, which, as you may gather, I'm quite a strong poignant of that -- that lobby.

Q. Have you had any other blogs in the past, Dr. Williams?

A. No, I haven't really been a blogger.

Q. Are you on any social media?

A. Yeah. Yeah, I have a Facebook account, a personal one, as well as a Facebook account for my -- for Tactical Anatomy, and another one for Anahata Wellness systems.

Q. Do you have any other social media accounts?

A. No.

Q. Have you had any other social media accounts in the past?

A. I guess if you call -- social media accounts? If you call being on an Internet message board, yes, I have. Is that -- is that what you're driving at?

Q. Sure. What is that Internet message board?

A. Well, there's a bunch of them. I'm a member of a number of past and present firearms in law enforcement message boards: 24hourcampfire.com would be one, another one would be 10-8, that's 10-8forums.com. There's a law enforcement one called primaryandsecondary.com, ar15.com. I'm a member on all of these, but I rarely contribute.

What's the other one that was -- Dr. Gary Roberts and I were both very active in Primary and Secondary for a while on the issue of gunshot wounding and ballistics. And there's a couple of other wound ballistic pages that I

was a member of, for a period of time, but I -- I rarely go -- excuse me -- I rarely have time to write on or even read any of those anymore.

Q. Do you have a username on 24-Hour Campfire?

A. Yeah, it's Doc Rocket.

Q. And do you have a username on 10-8 Forums or 10-8?

A. I believe it's just my name. James S. Williams, but it might be JSWMD. I can't recall.

Q. Do you have a username on Primary and Secondary?

A. Yeah, but I -- again, I haven't been there for a while. I think it's JSWMD, or it may be James Williams, MD. I can't recall.

Q. Do you have a username on ar15.com?

A. I haven't been there -- I must have, but I haven't been there in so long that I can't recall. I think it's -- if I have a membership, it's James W, MD or it may be Doc Rocket. I can't recall.

Q. When was the last time you accessed any of these forums?

A. Well, I was doing some COVID education on 24-Hour Campfire back in the summer, July, August. I usually keep up with some of the hunting news that the guys have -- some of the guys I know there. I might -- I did check in on one of the hunting forums in late December briefly, but that would be it.

Q. Did you prepare an expert report in this case, Dr. Williams?

A. I did.

Q. I'm going to share my screen.

Do you recognize this document, Dr. Williams?

A. I do.

Q. Is this your expert report in this litigation?

A. Yes.

Q. And it's dated November 10, 2021?

A. Yes, sir.

Q. Okay.

MR. MITCHELL: I'll have this marked as Exhibit 2, please.

(WHEREUPON, a document was marked as Exhibit Number 2.

BY MR. MITCHELL:

Q. And is this your signature on page 14, Dr. Williams?

A. It is.

Q. Dr. Williams, what questions were you engaged to answer?

A. I was asked to report on the efficiency, efficacy of a firing squad as a means of execution.

Q. Okay. Do you see right here, on page 4, where it says you're engaged to address two questions?

A. Uh-huh.
Q. Are those the two questions you were engaged to address?
A. Those are the specific questions, yes.
Q. Is the first question: Would execution by firing squad cause death in a quick and painless manner?
A. Yes, that would be what I would call efficacy.
Q. Is the second question: Is execution by firing squad feasible in Tennessee?
A. Yeah. And that's what I would call efficiency, yes.
Q. Were you engaged by plaintiff's counsel to answer any other questions?
A. This is what I was engaged to answer, and these are the questions I've answered.
Q. Were you engaged to address any other methods of execution?
A. I was not.
Q. Did plaintiff's counsel engage you to craft a protocol for execution by firing squad?
A. They did not.
Q. Have you ever crafted a protocol for execution by firing squad?
A. Absolutely not.
Q. Did you attach your CV to this expert report?

A. It was submitted, yes.
Q. Is your CV up to date in this case?
A. It should be. I reviewed it just before submission, so it would have been up to date at that time.
Q. As of November 10th, was this list of expert reports and testimony up to date?
A. Yes.
Q. Did you ever testify as an expert in 2021?
A. In '21? Yes. I testified as an expert in deposition in the Glossip case, and I testified in Las Vegas, Nevada, in the -- the other case that I referred to, Floyd, the Floyd case.
Q. And what month did you testify in the Floyd case?
A. I testified around November 18th of 2020.
Q. Do you know if it was on November 18th -- of 2020 or 2021?
A. Oh, yeah, '21. Sorry, 2021. My bad. If I look at my calendar, I could tell you exactly what date.
Q. Please do that.
A. Okay. And I testified on the morning of 18 November.
Q. Okay. And when did you testify in the Glossip case?
A. I don't have that date in front of me. Last year, July -- June, July, something like that. Might have been

April or --

Q. In 2021 -- I'm sorry, what was that last part?

A. I -- no, I'm -- I was just saying I couldn't remember the month. Go ahead.

Q. In 2021, did you testify as an expert in firing squad in any other litigation?

A. I did not testify under any litigation last year other than those two -- those two circumstances.

Q. Did you testify as an expert as to firing squad in 2020?

A. Twenty-twenty? I don't believe we had anything in 2020, no.

Q. Now, this is a list of your lectures and conferences that you've presented at?

A. Uh-huh.

Q. Have you left any lectures and conferences out?

A. Uh-huh.

Q. Which ones?

A. Yes, I have. Many. These -- I just highlighted the ones that I was an -- I was advertised as a speaker at.

Q. So --

A. This -- there's been many other conferences. For instance, I've attended the IALEFI conference that you'll see in the first instance, IALEFI. I've attended almost

every IALEFI conference since 2009. I missed a couple. ILEETA, which you can see down there in the fourth, I've attended the ILEETA conference almost every year since 2007. That's an annual meeting. So I attend, but don't necessarily present. But I'm often asked to participate in discussions.

And I served on the panel of experts at ILEETA many years that I've been there. And there's a -- a panel discussion on the -- one of the afternoons that I lead where the firearms experts panel, answer questions from the -- the general membership attending, and we have a discussion -- a roundtable discussion about issues of the day affecting firearms and gunshot wounds and so forth.

Q. Were you a presenter at any conferences in 2021?

A. No.

Q. Were you a presenter at any conferences in 2020?

A. Yeah. Yeah. I presented at IALEFI in 2020. Which I think is on there; is it not? Oh, no, it wasn't 2020, it was 2018. Time flies. No, 2018 was the last time I presented at a major law enforcement conference.

Q. After that June 2018 law enforcement conference, have you presented at any other conferences in the intervening three and a half years?

A. I have not.

Q. Do you have any certifications related to firing

squad?

A. Only that I have been accepted as an expert in firing squad by the State of Arkansas, by the judge of the State of Arkansas trial, and again here in Nevada. Those are the only two things that would give me any bona fides, I guess.

Q. Nothing from any sort of professional association?

A. Yeah, no, I don't know that there is any professional firing squad organization, so.

Q. Have you undergone any training relating to firing squads?

A. I'm not aware that anyone has ever had any such training available anywhere in the world.

Q. So --

A. So no.

Q. -- is the answer no?

A. So the answer is no.

Q. Have you ever spoken to a participant of a firing squad execution?

A. No, I haven't spoken with him. I was present when he was -- when he testified in Arkansas.

Q. Who was that individual?

A. It was -- I believe he was the assistant warden. I can't recall his name. So he was one of the administrators involved in the last -- I might be mistaken

here. Hang -- let me -- hang on a second.

I recently saw the deposition of the -- the warden at the Utah prison, and I might be confusing him with the other fellow. Let's just say I have -- I think -- I can't say with certainty that I have -- that there -- that there was testimony at Arkansas by that individual. I may be mistaken. I may be confounding two different testimonies.

Q. In any event, you haven't spoken personally with these individuals?

A. No, sir, I have not.

Q. Now, do you see here, on page 2 of your report, where you state that you've conducted about ten, quote, firearms training in the past five years?

A. Yeah, I see it.

Q. Towards the bottom?

A. Yes.

Q. When was the last firearms training you conducted?

A. I last instructed at a firearms class in October of 2021. I was an assistant instructor at a class offered by a colleague. And I last conducted a Tactical Anatomy -- full Tactical Anatomy course in the state of Nevada in 2019.

Q. In 2019, 2020, or 2021, did you conduct any other firearms training?

MS. LEONARD: Object to the form.

THE WITNESS: I did not -- I did not conduct any firearms trainings as a -- as the provider of the training. I may have provided some ad hoc assistance at one or two classes that I attended. But, no, I have not actually been the on-the-spot trainer for any of them. So that's -- that's the sum right there that we talked about.

BY MR. MITCHELL:

Q. So you assisted a colleague in October of 2021 in conducting a firearms training; is that correct?

A. Yeah, that's correct.

Q. And in 2019, that was the last Tactical Anatomy Systems firearms training you conducted?

A. Yes, sir.

Q. And did you only conduct the one Tactical Anatomy Systems training in the last three years?

MS. LEONARD: Object to the form.

THE WITNESS: The -- the Nevada class --

MR. MITCHELL: Just a second, Doctor. Dr. Williams, let me interrupt you. I'm -- I'm sorry.

Lynne --

THE WITNESS: Okay.

MR. MITCHELL: -- what's the basis for your objection? Can you explain?

MS. LEONARD: Yeah, it's an unclear question. Could you just rephrase that to make that a little -- a

little clearer what you're asking?

MR. MITCHELL: Sure.

BY MR. MITCHELL:

Q. Dr. Williams, I apologize. In 2019, did you only perform one Tactical Anatomy Systems training?

A. Actually, no. We already covered the other one. I conducted the training in Nevada for the Department of Wildlife, which was, I think, in March. And then I conducted the training at Houston, which we've already covered, at the IALEFI conference. So there were actually two classes that year, but that was the sum total for 2019.

Q. How many trainings did you conduct in 2018?

A. I would have to review that, but somewhere in the neighborhood -- three or less. I don't do a lot of teaching of this stuff anymore.

Q. Were those all through Tactical Anatomy Systems?

A. Yeah. That's the only -- the only place that I offer training, yeah, is through Tactical Anatomy.

Q. Do you keep records of these trainings?

A. Yes, I do.

Q. How far back do you keep these records?

A. Back to 2006, I would imagine.

Q. And do you have any academic publications in the past ten years?

A. No.
Q. Have you ever published a medical literature?
A. Yes.
Q. How many times?
A. Five to ten times. And this was all back when I was still associated with the research organization at Calvary, so my last publication would have been 1990, 1991, something like that.
Q. Is this before you received your MD degree?
A. Yes, I haven't published anything since I got my MD.
Q. Have you published anything related to trauma?
A. Medical trauma, no.
Q. Are you a ballistics expert, Dr. Williams?
A. I am not a ballistics expert, but I have a high degree of familiarity in the field, and I know a lot of ballistics experts, yes.
Q. I'm sorry. Say that last portion. I just didn't catch it.
A. I know a lot of ballistics ex -- people that I would consider ballistics experts that I refer to expertise. Most laymen would consider me ballistics expert, but I -- I tend to defer to my colleagues that are more advanced in the field than I am.
Q. What is the name of a layman who would consider

you a ballistics expert?
A. Rob Mitchell. Anybody who doesn't study ballistics would have to consider my knowledge to be expert above their own.
Q. So is it your testimony I would consider you a ballistics expert?
A. I'm being facetious, Mr. Mitchell, of course. But anyone who has not studied ballistics to any great extent would consider my knowledge expert. So, for example, when I went -- I attended a revolver symposium in -- at a gun site in Arizona in late November. Even though I was not there as an expert, I was deferred to as an expert by many of the instructors present because of the fact that I have known expertise in the firearms community in this area.
So I don't mean to dissimulate. Truly, I don't. But I've never considered myself to be a ballistics expert. I'm more of an expert in the terminal effects of ballistic projectiles, and the distinction is very real.
Q. So you don't consider yourself a ballistics expert?
A. That would be correct.
Q. Have you ever published in ballistics literature?
A. I have not.
Q. I'm sorry, what was that?
A. I have not.

Q. Now, returning to your expert report, on page 14, did you conclude that firing squad is a feasible means of execution in Tennessee?

A. I did.

Q. What does it mean for a firing squad to be feasible?

A. Well, my -- my definition of feasibility would be that it would be feasible to take a condemned person to a place of execution, by personnel of the State of Tennessee Department of Corrections, to affix that person in such a manner that he could not avoid the projectiles, to assemble a group of riflemen, employed by or engaged by State of Tennessee Department of Corrections, and that they should be able to shoot him to death with those rifles in an expedient manner that would result in a quick and relatively painless death.

Q. And that's what it means for an execution by firing squad to be feasible in Tennessee?

A. That's what I would say feasibility entails.

Q. And is this still your conclusion today that execution by firing squad is a feasible means of execution in Tennessee?

A. Yes.

Q. Has your conclusion changed in any way from November 10, 2021?

A. It has not.

Q. Did you also conclude that firing squad execution will result in a quick and painless death?

A. Yes.

Q. What does it mean to have a painless death?

A. Well, it's highly subjective, sir. Pain is a highly subjective function. But in the -- in the grand scheme of things, a death that involves absolutely no sensation, no neural sensations of a noxious nature. There are -- such a thing is extremely rare. It is achievable, but it's extremely rare.

Q. Painless death is extremely rare?

A. If we're talking about neurological definition of zero pain, yeah, it's extremely rare. Death is -- death is almost always -- and when I say almost always, I mean in the -- the quantities of deaths that may be truly painless, are infinitesimal, a drop in an ocean. Pain is always involved in death.

So when I speak of painless, I'm speaking in terms of the overall spectrum of pain that a person goes through in the process of passing from life to death. Death by gunshot wound, by firing squad, is as about as painless as it gets, short of a gunshot wound directly to the brain stem, which is the only thing I can say -- I can think of that will actually result in an instantaneous death with

no more neurological impulses conveying pain to the brain. That's the only exception.

Q. Could the same gunshot in two different individuals create different experiences of pain for each of those individuals?

A. It could do. I mean, there's -- there's -- it's hard to compare apples to apples because human -- just variations in human anatomy are so wonderful and varied that what appears to be exactly the same sort of gunshot wound in one person may actually result in a very different, subjective impression in another person.

Blood vessels don't follow an anatomically prescribed pattern. Neither do nerves. So it's very possible that a wound that would be relatively painless in one man might be considerably more painful in another. But in the main -- if we look at an average, if you will, of similar injuries, whether it's gunshot wounds, crush injuries, electrical injuries, what have you, they'll all produce a -- they will all tend to exhibit central tendencies in the Gaussian format, just like anything else.

Q. As an emergency department physician, have you ever seen a painful death?

A. Many times.

Q. How many times?

A. Many times.
Q. Under what circumstances?
A. Death by heart failure, death by myocardial infarction, people who've died from traumatic injuries in motor vehicle collisions, deaths from infectious disease resulting in cardio respiratory failure. The list goes on.
Q. What are some other examples in that list?
A. Death by drug toxicity, death by edged weapons, death by blunt instruments, beating to death, death by gunshot wound, of course, death by electrical injury, death by burns.
Q. And those are all examples of painful death you've seen as an emergency department physician?
A. Yes.
Q. You mentioned death by gunshot wounds. How many painful deaths by gunshot wounds have you seen?
A. Not too many. Not too many.
Q. Out of the hundreds and hundreds of gunshot wounds you've treated?
A. As I said -- as I told you, most of the people that I see who have gunshot wounds don't die in the emergency room. They may die in the operating room, they may die in the hospital later, or they may be dead by the time I see them. So the number -- number of actual deaths

that I see, as they happen, is relatively small; a few dozen.

Q. Dr. Williams, what does it mean to have a quick death?

A. It's very subjective, isn't it? You talk to the man who's taken six months to die from very painful bone metastasis from his prostate cancer and ask him what a quick death is. He'll tell you something very differently than the man who dies from 24 hours of slowly suffocating in his pulmonary fluids that are accumulating because of congestive heart failure.

The man who's dying from metastasis will consider that a slow death by suffocation, over 24 hours, to be a quick and preferable way to die. It's -- it's a meaningless question, sir. The quickness is entirely subjective.

Q. So when you concluded that firing squad will result in a quick death, that was entirely a subjective use of quick?

A. It's a subjective term that I think most people can identify with. Since you and I have not had to face death personally, we can only draw our -- our frame of reference from what we've read and heard. So we look at what people have gone through, in the course of their dying, as it's reported to us or as we observe ourselves,

and then we have to make conclusions as to what we think would be quick or by comparison.

Now, from myself, looking at -- having seen people die by inches over months or even years, I would consider a death that takes five or six or ten seconds from a gunshot wound -- or a series of gunshot wounds to the chest to be very quick indeed, but that's my subjective opinion. You know, the concept is not one that has ever been quantified in any literature.

Q. Do you consider a quick death to be a death that occurs in under 30 minutes?

A. Compared to dying by inches from bone metastasis, yeah. I mean, this is -- it's all relative, sir. You can't --

Q. Have you ever -- have you ever personally witnessed someone die by a quick death?

A. I've seen people die very quickly, yes.

Q. How many times?

A. Dozens.

Q. Under what circumstances?

A. By cardio -- the list I gave you earlier: Myocardia infarction -- well, not the whole list -- motor vehicle collisions and injuries sustained from those. Those -- basically, traumatic deaths can be very quick indeed. Most medical deaths take a bit longer. The sole

exception to that, that I can think of, would be -- that's actually not the sole exception. The two major exceptions would be myocardia infarction with association cardiac arrhythmias, and the other one would be, of course, massive stroke, which would be very quick.

Q. Have you ever been present on the scene of a motor vehicle accident when someone died?

A. Yes.

Q. How many times?

A. Half a dozen. No, not that many. Twice. Twice that I've actually seen the person die.

Q. And were you present when that motor vehicle -- when those two motor vehicle accidents happened?

A. Unfortunately, yes.

Q. Were you present in your capacity as a physician?

A. I was there as a bystander in both cases, but I did render medical aid in one case.

Sorry. Dogs.

Q. Is it still your conclusion today that execution by firing squad will result in a quick and painless death?

A. That is my contention, yes.

Q. Has your conclusion changed in any way from November 10, 2021?

A. It has not.

Q. What is your basis for concluding that execution

by firing squad is a feasible means of execution in Tennessee?

A. By the means that I described to you earlier. It's not difficult to take a condemned person to a place where he can be shot to death. It's not difficult for the department of corrections to assemble the rifles, ammunition, and riflemen necessary to commit an execution.

The complexities, the mechanics, the -- the steps that need to be taken for that sort of execution are no more onerous than those required for execution by lethal injection. And in some cases, it may be considerably less fuss and bother. It's certainly less than the fuss and bother involved with death by electrocution.

Q. Have you ever attended a death by electrocution?

A. I've seen death after electrocution, yes. I have not attended an execution by electrocution.

Q. What do you mean by you've seen death after electrocution?

A. I've attended -- I've attended to individuals who've been electrocuted in -- in an accidental situation where they have been brought to me shortly thereafter. In each case, they were already dead. They had already died. They died at the scene.

Q. So you have not seen a lethal injection execution occur?

A. I have never seen an execution, of any kind, in person.

Q. Have you ever witnessed an execution of any kind be rehearsed?

A. No.

Q. What type of firearm would the defendants need in this case to execute someone by firing squad?

A. Rifles. Center-fired rifles, major caliber. What we would -- is commonly referred to as a high-powered rifle; a hunting rifle, a deer rifle, a police rifle. Something with a caliber -- well, a caliber is -- is just a measure of the diameter of the bullet or the diameter of the bore of the barrel.

Really, what we're talking about is a -- is a firearm capable of firing a projectile with sufficient energy to kill a large mammal, so a deer-hunting rifle is what most people would identify.

Q. Are any of the examples you mentioned preferable to any of the others?

A. Not really. Not really. Any -- any hunting rifle that is in common use -- I should say hunting ammunition that is in common use -- any rifle ammunition that is in common use for law enforcement purposes should be sufficient for this task.

Q. When an execution by firing squad occurs, should

the condemned be fixed in a stationary position so the condemned does not become a moving target for the riflemen?

A. Absolutely.

Q. Should a target be placed on the condemned?

A. I think that would be expedient, yes.

Q. Where should the target be placed?

A. It should be placed over the upper portions of the cardiovascular bundle. So I would -- I would estimate -- I mean, something -- a paper or cloth target or a piece -- whatever -- a flat piece of something that's about 3 to 4 inches in diameter and placed over the lower part of the sternum, overlapping the left sternum border, and that would be an anterior posterior presentation. The final would be upper part of the ventricles, the atria, and the other roots, the pulmonary trunk roots and so forth.

Q. Should the target be placed on the head?

A. If you're just -- if your protocol requires that the person be shot in the head, then put it on the head. That's up to the state doing the executing, sir. It's not up to me.

Q. Is one purpose for placing the target on the chest to avoid disfiguring the face out of sympathy and dignity?

A. I believe that is the case. I've seen it. I've

read it mentioned in several sources, yes.

Q. And is another purpose for placing the target on the chest to enable postmortem identification?

A. I've read that as well, yes.

Q. Do you agree with what you've read?

A. It makes some sense. I have no opinion one way or the other.

Q. You use the term "cardiovascular bundle." Is that a medical term?

A. Yes.

Q. What is the cardiovascular bundle?

A. It is the collection of the heart and the great vessels in the mediastinum of the chest. They are -- these structures are all closely together. They comprise the -- in vertical presentation. The cardiovascular bundle is roughly from the bottom of the sternum up to about two-thirds of the way up the sternum. And about -- you know, the -- on the left extreme would be the apex of the heart; the right extreme would be the right atrial border; vertically, the top of the aortic arch; and in the inferior margin would be roughly the apex of the heart as well.

Q. Are there any other structures in the cardiovascular bundle?

A. Within the cardiovascular bundle, there are the

heart, which comprises the two atria and two ventricles. There'd also be the aortic root, the pulmonary trunk, the two pulmonary arteries. You also have the return vascular, which would comprise the -- the venous sinus, the superior vena cava -- or the inferior vena cava, and the pulmonary veins returning from the -- the lungs. So these -- these are the primary components of the cardiovascular bundle.

Q. Do you agree that if someone is shot in 80 percent of the chest, that it will not produce anything close to cardiovascular incapacitation?

A. Yes, that's quite true.

Q. Is cardiovascular incapacitation desirable for firing squad execution?

A. That is the primary mechanism by which mortality is achieved, yes.

Q. What is cardiovascular incapacitation?

A. The mechanism of death, of dying, is to cause the brain to cease to function. The central nervous system, the brain, is where the life force appears to be concentrated, and once the brain ceases to function, that's considered brain death, and that is the currently accepted, final definition of death in the medical literature and consensus among physicians is brain death.

Brain death can be achieved by destruction of the

brain itself, but it's more commonly achieved or accomplished or results if some -- often -- usually, it's not intentional, but it's -- it -- it's the culmination of the lack of circulation of blood to the brain with the delivery of oxygen to the brain.

Oxygen is absolutely necessary for the brain to function, and the brain tissues, the neurons in the brain, require a constant supply of oxygen to stay alive. Brain cells cease to function after they have lost sufficient oxygen to keep their energy cycles working, and this takes only a matter of a few seconds, once circulation has ceased to the brain.

So if you stop circulation at the cardiovascular bundle, you stop delivery of oxygen to the brain, and the brain's reserves of oxygen that it can maintain function with is typically exhausted within six, seven, maybe ten seconds. In an individual who has hyperventilated prior to the moment of death, that brain reserve may be a little longer. May go up to 15, 16, 20 seconds by some estimates, but it certainly doesn't last longer than that.

So when we use the cardiovascular gunshot wound as our means of execution, what we're really doing is stopping the brain oxygen delivery system, and that's -- that's how you accomplish inflicting mortality upon the individual.

Can we pause now, sir? I could use a break.

Q. Absolutely. Should we say 13 minutes, 10:45 central?

A. That's fine. I don't need that long. But if that works for everybody else, I'm fine with it.

Q. Just to round it up to something easy.

A. Sure, let's do that.

Q. Thank you.

A. Thank you, sir.

(WHEREUPON, a recess was taken at 10:33 a.m. and the deposition resumed at 10:45 a.m.)

BY MR. MITCHELL:

Q. Dr. Williams, during our break, did you look at anything?

A. Just checked some e-mails, that's all. Not relevant to this case.

Q. Okay.

A. Nothing relevant.

Q. Related to the firing squad?

A. No, just business stuff.

Q. Related to any other case?

A. No, sir.

Q. Did you speak with anyone during our break?

A. I did not. I spoke to my wife. She was on her way out the door.

Q. About this deposition?
A. No, uh-huh. No.
Q. Is it your position that it's feasible for the defendants in this case to execute by firing squad?
A. I'm sorry. Can you repeat the question.
Q. Sure.
Is your position that it is feasible for the defendants in this case to execute an inmate by firing squad?
A. Oh, okay. I'm sorry. I'm mixing up plaintiffs and defendants in my head. Yes, sir, I believe that's true.
Q. It is feasible for the defendants to execute an inmate by firing squad?
A. I have no familiarity with the Department of Corrections, so I really don't know where they would do it. It's up to them.
Q. Is there a risk that a bullet could ricochet during a firing squad execution?
A. If they excercise the level of care and intention as done by other jurisdictions, that risk is virtually nil, but there is a slight possibility.
Q. What is the level of care and intention exercised by other jurisdictions?
A. Well, just to use the Utah firing squad death

chamber, for example, they provide for a very good level of protection for witnesses and the execution squad itself by placing the other individuals behind bullet resistant, ballistically impervious materials. So they have ballistically resistant windows for the witness viewing chambers, which are embedded in ballistically resistant walls. I'm not exactly sure what the construction is, but even a direct -- a directive fired caliber from one of the execution rifles couldn't penetrate them at a 90-degree angle of incidence. That's what I'm told.

Likewise, the execution squad is behind a ballistically impervious barricade, which has various small firing slits located in them, so there's a remote possibility that a ricochet could come back through one of those slots and injure one of the execution squad members, but, again, the likelihood of that is extremely small.

So that's the nature of the execution chamber, as I understand it. And this is from testimony that I've had deposition at trial and that I have reviewed in other cases. I have not actually seen the execution chamber.

Now, the other -- I think the more important means of preventing collateral damage, unintended injuries from ricochet, is that the -- the subject, the condemned person, is strapped into a chair, which is affixed to a firm platform, and the backstop for the chair consists of

heavy lumbar, behind which is some absorbant material that slows the bullet down. And then behind that is a heavy, ballistically impervious blanket, for lack of a better term, which bullets are unlikely to penetrate or bounce off of.

And then should any of these bullets pass through the body of the condemned through the plywood -- or not plywood -- but the lumbar or through the ballistically absorptive materials behind that, it essentially sandbags it. Then the -- the Kevlar blanket will absorb the remaining injury of those -- energy of those bullets and they will not pass any further.

Since there's no hard surfaces of sufficient hardness that a bullet would bounce used in the manufacturer of the chair, even if a bullet was to go astray by a substantial margin, which is extremely unlikely given the training that they use for the execution team -- I'm not saying impossible, but extremely unlikely -- the -- the possibility of a ricochet is virtually nil. You never say 100 percent certainty, but very, very low probability that anything would ever bounce off.

Q. Is everything that you just testified to in the Utah protocol?

A. Yes, sir.

Q. And those are all measures Utah takes to prevent a ricochet from occurring, correct?
A. That's my understanding, yes.
Q. What is the chair that the condemned is affixed to in Utah made of?
A. Lumbar, wood.
Q. Now, what other measures does Utah take to address the possibility of a bullet ricochetting?
A. Pretty much it. I don't think -- I can't think of anything else. I may have omitted something unintentionally, but I think that covers it all.
Q. Are there any other measures you can think of that would address the possibility of a bullet ricochetting during an execution by firing squad?
A. I can't think of anything over and above the measures I've given you that has any -- there's any need for, or any feasibility of constructing.
Q. What sort of experience -- I'm sorry, what was that last part?
A. You know, if I thought about it, I might be able to come up with a couple other ideas. Maybe you could extend the Kevlar blanket to the sides of the -- of the -- of the chair on the platform so that you'd have more of a -- three sides surround the individual, you know, and over the top of it. I suppose that would work

or could work. But then that would block the view of the condemned person from the witnesses, so that really wouldn't be feasible, unless you put the witnesses behind -- on the same side as the execution team, and then that would involve building a second level.

I don't know. I mean, there's -- there's things that could be done. But the steps that have been taken by Utah Department of Corrections seem to have been well thought out, very thorough, and there certainly has never been a reported incident of ricochet in Utah, in any of the executions that they've undertaken by firing squad since the mid-1800s, so. And I am frankly not aware of any reports of anyone injured by a ricochet during a firing squad -- a firing squad execution ever. So I don't know that anything beyond what Utah has done is -- is necessary.

Q. How many executions by firing squad has Utah conducted since the mid-1800s?

A. I don't have that number at my fingertips. It's about 40, I believe. No, that's too many.

Q. What sort --

A. Yeah. Oh, I just looked at this last month -- or in November. In the mid-20s, I think, 25 or so.

Q. What sort of experience is necessary to execute someone by firing squad?

A. You mean aside from administrative experience.

Q. Well, firearms proficiency?

A. Oh, certainly, yeah. In terms of the executioners, the riflemen, yeah, they would need to be experienced. They need to be able to exhibit -- certainly, they would need to meet the minimum standard for law enforcement training in their state. Rifle qualification courses of firearms are very well established in every state. Of course, there are firearm or marksmanship requirements that must be met. These vary from state to state.

It's been awhile since I've looked at Tennessee's requirements, but the peace officers in Tennessee must qualify -- if they're authorized to use a rifle, they must qualify with it on a regular basis; I believe twice annually. They must be able to hit at a specific target in a specific range, which is, you know, within a reasonable degree of certainty and acceptable standard for police firearms proficiency. And, in fact, the standard that they must meet in -- in the rifle qualification is a higher standard than would be required to hit a 3-inch circle or 4-inch circle, on the chest of a condemned person, at a distance of 21 feet.

So the proficiency of any certified rifle -- certified peace officer who is certified to use a rifle on

duty, any of those individuals would have the requisite marksmanship capabilities to serve on a firing squad.

Q. Do you agree that any firing squad shooter should be trained in marksmanship?

A. Yes.

Q. Do you agree that any firing squad shooter should be certified in marksmanship?

A. Yes.

Q. How long does it take to be trained in marksmanship?

A. It depends on the state's requirements. Most states have a requirement -- a minimum requirement for marksmanship training with firearms that they have in their prescribed academy curriculum.

Q. Do you know whether Tennessee has a requirement?

A. I haven't looked at the training requirement recently, but yes, I believe they do have it. I do know that the agencies in Tennessee that I have trained with have rigorous standards, and I believe those are -- I know those follow the guidelines from Tennessee POST requirements. But I think in Nashville -- Nashville Metro actually goes over and above those. So those are agencies that meet and exceed the State requirements within the state of Tennessee.

Q. What agencies have you trained with in the state

of Tennessee?

A. I've conducted training at Metro Nashville PD on three occasions, I believe, in the past. And those trainings have been attended by multiple agencies, not just Metro Nashville PD, but Tennessee State Patrol have attended, members of that organization, and a number of the local police force and -- and sheriff's department personnel in that part of Tennessee.

Q. When was the most recent training in Tennessee you conducted?

A. I'd have to look at my records. I believe it was 2008. Might have been 2009.

Q. Is there a difference between shooting a human and shooting a target?

A. In terms of the mechanics, no. In terms of the subjective experience, there's an enormous difference.

Q. What is that difference in terms of the psychology?

A. The difference is enormous. Lieutenant -- Lieutenant Colonel Dave Grossman wrote a book, "On Killing," which I have supplied the publication information on. If you haven't read it, I highly recommend it. It's -- Lieutenant Colonel Grossman is a -- is an expert on the psychology of killing, possibly the leading world expert on it.

He comments on his -- in the introduction to his book, that the act of homicide is universal human phobia. We are instinctly -- as human beings, instinctively have a psychological barrier. It's hardwired into us at some level, and we have a barricade that makes killing another human being a frightening, if not a phobic, stimulus in such that it must be conditioned out of the individual by training in order to act in a manner that one can actually inflict death upon another human being.

History's full of the examples of people who have successfully trained in this endeavor. And it doesn't matter whether it's on the criminal side or on the side of law and order, individuals must be trained to inflict harm on another person.

Q. How long --

A. That --

Q. -- does it take to train -- how long does it take to train to inflict harm on another person?

A. It varies. It varies with the person. And since I don't conduct that training, I couldn't give you a specific time frame. David Grossman suggests that it can be done in as little as less than six months by taking a raw recruit into the United States military and turning that individual into an effective killer of human beings.

Q. Do you agree that the vast majority of people find

it psychologically much more difficult to shoot a person than a target?

A. Absolutely, I agree.

Q. Have you spoken with anyone at the Tennessee Department of Corrections about executions by firing squad?

A. I have not.

Q. Do you know, personally, any individuals from Tennessee who are willing to carry out execution by firing squad?

A. I haven't asked them specifically, but I know a number of people who I think might be willing to do so.

Q. But you don't know because you haven't asked them if they're willing?

A. I haven't specifically asked them.

Q. So is the answer no, you do not know any individuals in Tennessee who are willing to carry out an execution by firing squad?

A. True, that's my answer.

Q. About how many sworn officers are there in the state of Tennessee?

A. When I looked at that a few weeks ago, I believe it was about 15,000.

Q. And what is the basis for that statistic?

A. I looked it up on the State of Tennessee website.

Q. Where on the State of Tennessee website did you look that up?
A. Couldn't tell you. I just did a search on the Tennessee website. Yeah, I couldn't tell you exactly where it is.
Q. What State of Tennessee website was that?
A. Tennessee.gov.
Q. Has it been your experience that all law enforcement personnel are expertly familiar with the use of a rifle?
A. No.
Q. Do you agree that a death by firing squad is not guaranteed to be free from human error?
A. Do I guarantee -- can you put that without the double negatives.
Q. Do you agree that a death by firing squad could have human error?
A. Yes, I agree.
Q. Now, in your expert report, you cited both Utah's current protocol for execution by firing squad and older firing squad protocol of the U.S. Army in support of your conclusion that execution by firing squad is a feasible means of execution; is that right?
A. No, the current U.S. military method is -- is feasible, their old protocol is feasible, and the current

Utah protocol are feasible. They're all feasible. I alluded to both a former and a current U.S. military protocol, I believe. In fact, in any case, if I didn't refer to it in that way, I'm sorry. But I have testified as to all three of those protocols. I may be confusing my -- my case here.

Q. So here, on page 4 of your report, under Materials Considered, you considered, first, Utah's Protocol for Execution by Firing Squad, correct?

A. Correct.

Q. And it says that that was attached to this report?

A. I believe it was, yes.

Q. And if we scroll down, do we see that attachment anywhere before your CV?

A. I don't see it there, no.

Q. Do we see it after your CV?

A. I guess not, no.

Q. And two, do you also consider the U.S. Army's protocol for executions by firing squad attached to this report as Appendix C?

A. Yes, I did consider the U.S. Army's protocol.

Q. And did we see that anywhere attached to this report before or after your CV?

A. I don't see it here, no, sir.

Q. And is your position that there are two U.S. Army

protocols that you considered in preparing this report?

A. Yes, there are.

Q. And what are the dates of those U.S. Army --

A. The former protocol -- the former protocol was, I believe -- and I'd have to look at the stuff again -- it was about 1947 and '48, and it was active until 1957 or '58. The current protocol was developed and published in 1957 or '58. Now, that's the best of my recollection. I might be a little bit arrear.

Q. So do you see on page 11 you wrote: To prepare for this report, I reviewed Utah's current protocol for execution by firing squad and an older firing squad protocol of the U.S. Army?

A. Yes.

Q. And you only mentioned one U.S. Army protocol; is that correct?

A. Yes.

Q. But it's your testimony that you considered two U.S. Army protocols?

A. Yes. I use the term an "older" to refer to the fact that it preceded the Utah protocol. And I was referring to -- it doesn't state this clearly enough. That's an error in my grammar. I was -- I reviewed and considered both of these as currently active protocols, so the Utah protocol and the older, current firing squad

protocol of the U.S. Army are the two that are my primary sources here. I did review the earlier U.S. Army protocol as background or context material for the current U.S. Army protocol.

Q. Did you provide that earlier, previous U.S. Army protocol to your attorneys to supply as materials considered in this report?

A. I don't recall if I did or if I didn't.

Q. And here, you see at the bottom of page 11, where it says: The Army's procedure differs in some minor, but practical points?

A. Yes.

Q. Are all of these points of procedure from the 1950s protocol?

A. Yes, sir.

Q. What in your report relied on the 1940s Army protocol?

A. We'd be going back to the first case, maybe the second case that I had testified on, or provided a report on, which would have been the -- the case in -- the Ledford case in Georgia in 2017 and the Danny Bible case in Texas in 2017. For those reports, I only had the earlier U.S. military protocol. I didn't have the current one. I'm not sure exactly how that came about, but we -- I prepared those reports, at that time, relying on

the earlier U.S. Army protocol.

Q. And is execution by firing squad still an authorized means of execution by the U.S. Army?

A. Yes.

Q. How do you know that?

A. I asked a fellow who works for the -- had worked for the Judge Advocate General some years ago.

Q. Did you ask him some years ago or he worked --

A. Yeah, I asked him -- I asked him back in 2017. Actually, yeah, he had been, and he said as far as he was aware, it was still an active means of execution at that time.

Q. And did you know if it's still an active means of execution on January 4, 2022?

A. I know within a reasonable degree of certainty. I certainly haven't come across anything that says they've stopped using it, so let's put it that way.

Q. And what was the name of this gentleman you spoke with in 2017?

A. His name would be John Holschen, I believe. It might have been John Holschen. It may have been Gary Roberts. I don't recall which one exactly. They both have expert knowledge.

Q. Did you speak with them in person or through some sort of media?

A. On the telephone.

Q. And what was Mr. Roberts' role with the U.S. Government?

A. Dr. Roberts, not Mr. Roberts -- Dr. Roberts is -- or was at the time in the United States Navy Reserve, held a commission in that organization, and he had -- Dr. Roberts is probably the most -- foremost world expert in ballistics -- firearms ballistics in the world, studied under Dr. Fackler, and he has testified before Congress, before inquiries at the Pentagon, and to the Judge Advocate General by his communication to me. So that would be his role. He has been in an advisory capacity to the -- to the military and to the government in general.

Q. And what was the other gentlemen you mentioned? Was it Holsbine?

A. Holschen. John Holschen, H-O-L-S-C-H-E-N, I believe is the spelling. I know Mr. Holschen from the ballistics -- Internet wound ballistic community and from personal communication. He currently conducts training, part-time training. Actually, he does have a training coming. That might be his primary means of earning an income now in -- as a trauma medic. And he served in the United States Armed Forces as a field medic in Afghanistan and Iraq for a number of years.

Q. Is the U.S. Army's protocol for execution by firing squad more practical than Utah's protocol?

A. I don't think either one is more or less practical than the other. The Utah protocol is a bit more specific in some points, less specific in others. The differences in practicality are not in the protocols themselves but in the way the protocol's interpreted and acted upon. The administrative processes that they've developed in Utah for firing squad executions are over and above the verbatim reading of their protocol, but I think they've done a good job with it.

I do not know when the United States military last executed someone by firing squad with any real certainty. And so I -- and I have been unable to speak with anyone or see testimony or written documents that suggest what their interpretations of their protocol is, so.

Q. Do you know -- do you know whether the U.S. military executed someone by firing squad in the last 50 years?

A. I don't know. I don't know of any executions done by the United States military after 1947.

Q. And going back to the two individuals we discussed a second ago, do you have any other basis, other than your conversations with those individuals, for concluding that execution by firing squad is still an active, authorized

means of execution by the U.S. military?

A. No, I think I -- I think I've done some -- I know I've done some literature searches on the Internet to see if I could find any information to suggest that this is no longer on the books and I wasn't able to find anything suggesting that the protocol has ever been withdrawn or that it is not being used.

So I have found no evidence that they've withdrawn the protocol, which suggests to me that they likely still have it on their -- in their files and on their books. But that's just a conclusion I've drawn. That's not a statement of fact. That's just my opinion of it.

Q. How many riflemen does Utah's protocol require?

A. It requires four, with an alternate.

Q. Are there any backups?

A. Backup riflemen? That's the alternate.

Q. Yeah. And how many riflemen does the U.S. Army's protocol require?

A. Eight.

Q. Which number is more appropriate?

A. I don't think there's any material difference.

Q. You don't think four is any -- is materially difference than eight, double?

A. I do not.

Q. Why not?

A. Because ballistic energy imported by a single rifle bullet is more sufficient to cause death by this mechanism. When you take -- when you triple or quadruple that amount, it's just a matter of literal overkill. Extend that to eight riflemen and it's even more so. The -- the ballistic energy of those projectiles and the destructive capacity of them is more than sufficient to kill.

Q. Do you know, in the Army's protocol, how far is the firing squad from the condemned?

A. I believe it's 35 feet, but I'd have to re -- I'd have to look at that again and review.

Q. And how far is the squad from the condemned in Utah's protocol?

A. Twenty-one feet.

Q. Which of these two distances is preferable?

A. For the -- in terms of the marksmanship capabilities of the individuals involved, the difference between 21 feet and 35 feet is negligible.

Q. So neither one -- neither distance is preferable when conducting an execution by firing squad?

A. In my opinion, no. It might be different in the opinion of the people running those firing squads, but the -- the degree of accuracy that can be obtained at either of those distances is well within the limits that

we need to stay within for successfully killing the condemned person.

Q. Dr. Williams, what is your basis for concluding that execution by firing squad in Tennessee will result in a quick and painless death?

A. As I've already testified, rifles will produce enough of a ballistic injury to the cardiovascular bundle that the individual will -- the individual so executed will cease to have any functional cardiovascular function within milliseconds of the impact of the bullets, and brain death will follow within a matter of seconds.

Q. Does this opinion rely on any assumptions?

A. I don't know what you would define as an assumption, sir. I mean, does that rely on my understanding of medical physiology? If you meant physiology, yes. I mean, these -- these are facts, not assumptions.

Q. Well, does your opinion that execution by firing squad in Tennessee will result in quick and painless death rely on riflemen hitting the target, for instance?

A. So you're saying hitting the target is an assumption.

Q. Isn't it an assumption? Can riflemen miss?

A. They can miss. I don't know that I'd define it as an assumption.

Q. Could there be a faulty round of ammunition?
A. Extremely unlikely.
Q. Possible?
A. Within the realm of possibility, yes.
Q. Is your opinion that the only painless method of death is a direct gunshot wound to the brain stem of the brain?
A. Well, it doesn't necessarily have to be a gunshot wound. It could be a piece of rebar falling off a building and getting -- but it -- basically, a traumatic injury to the brain stem, causing complete cessation of function of the brain stem, is necessary. And if you're dealing with something that's traveling as fast as a bullet, it will get there before the nerve transmission from the skin can get to the brain. So, yeah, that would be the only -- the only way that you can instantaneously incapacitate somebody.
Q. So would you agree that the only method of execution that would be completely painless is a direct gunshot wound to the brain stem of the brain?
A. That is my assertion, yes.
Q. Do you agree that the response by humans being shot in the chest with a rifle can be highly variable?
A. No, I would not say it's highly variable. The response is going to be pretty similar with -- from one

person to the next. Three rifle -- three rifle wounds, high-power rifle wounds, to the cardiovascular bundle are going to produce exactly the same effect within a very small variability.

Q. Dr. Williams, is this your expert report?

A. Yes.

Q. Do you see this sentence in the middle of the page where you state that you have interviewed personnel, who have served as field medics in the U.S. Armed Forces, with respect to the effects of a gunshot wound to the cardiovascular bundle?

A. Yes.

Q. In the following sentence where it says that those individuals have informed you that the response to being shot with a rifle in the chest will be highly variable?

A. Yes.

Q. Do you agree with what those individuals have told you?

A. I do.

Q. And is that consistent with your professional experience?

A. Yes, it is.

Q. How, in the response to being shot with a rifle in the chest be highly variable?

A. Well, if you look at those two sentences, you'll

see in the first one, I refer to being shot in the chest, and, second one, I refer to being shot in the cardiovascular bundle. These are two different structures, so we're not comparing apples to apples. Those are completely different statements.

A rifle shot to the chest can be highly variable because if you don't shoot the person in the cardiovascular bundle, response can be highly variable. If it just creases the skin, that could be called a chest wound. A bullet that penetrates the periphery of the chest, breaks a rib, and passes through the other side without reaching into the thoracic cavity, that's a different thing as well.

Something that hits you in the high chest, such as my own personal gunshot wound, without intervening -- without penetrating into the thoracic cavity, would be an example of that. Yet again, that could be a gunshot wound. And, probably, the most common type of thoracic gunshot wound that I deal with is one that penetrates into the thoracic cavity on one side or the other, affecting part of the lung on one side or the other. And then there is a potential of a gunshot wound above the card -- the cardiovascular bundle in the central chest areas and the injuries that can occur there.

And, of course, there's the chest wounds to the

cardiovascular bundle. Notwithstanding, you have to consider the possibility of wounds that pass through the chest on a different angle that do not impact the cardiovascular bundle, but do impact the thoracic spine, which has a completely different set of symptoms, so -- and presentation.

So there are multiple types of chest wounds that are included in that, and that's why it says highly variable and that's why I agree it is highly variable. The chest is a huge structure, a huge area of the body. It's not a very unique system. It's a large, anatomic quadrant where the cardiovascular bundle, which I refer to in this second segment -- section, second sentence in that paragraph, is a precisely defined, anatomic region of the body.

And the effects of that sort of gunshot wound are quite highly predictable, which is exactly what the medic -- the people that I've spoken to, in the third sentence of that paragraph, is exactly what they said. People struck in the cardiovascular bundle have a highly predictable response; they stop all purposeful movement almost immediately and they cease any signs of life or response in less than ten seconds.

Q. Dr. Williams, do you agree that a gunshot can be extremely painful?

A. The possibility exists that gunshot wounds can be very painful. Again, you have to put it into context: If you have a choice between a gunshot and a sword wound, even a knife wound -- knife wounds, edge weapon wounds tend to be much painful, in general, than gunshot wounds. Burns tend to be more painful than gunshot wounds. Traumatic fractures tend to be more painful than gunshot wounds. There's all kinds of degrees of pain.

But in terms of gunshot wounds, can they be painful? Yeah, they can be. They can be. Most of the ones that I see are not particularly painful compared to many other forms of trauma, as I've described.

Q. But you agree that they can be extremely painful?

A. Yes, sir, they can.

Q. Has anyone ever told you that a gunshot wound to the chest feels like being hit in the chest with a baseball bat?

A. Yep.

Q. How many people have told you that?

A. Dozens.

Q. Had all these people been shot in the chest?

A. Yeah. I'm talking about people who have been shot in the chest and are still conscious and talking to me.

Q. And dozens of them said it was equivalent to being hit in the chest with a baseball bat?

A. They might not have used the term "baseball bat" directly, but being hit in the chest with a blunt object, being punched in the chest, being hit by a rock in the chest, like being tackled at a football game, those are -- those are the kind of similes that people have put to me.

Q. How many individuals, who were shot in the chest, have told you that it felt like being hit in the chest with a baseball bat?

A. Specifically a baseball bat? I don't know. Maybe half a dozen, maybe less, maybe a little more, something along those lines.

Q. Does being hit in the chest with a baseball bat result in pain to the person who was hit?

A. You have to take into account the progression of the injury and how people perceive pain initially. Typically, the typical layman doesn't look at the way an injury progresses over time, and so they tend to -- they tend to oversimplify. So the fact that being struck with a bat in the chest might be painful five seconds after the injury doesn't -- doesn't negate the fact that most people -- if you actually have them break down the time frame, the sensation of a blow is more of a stunning effect as opposed to a painful effect.

The sensation of receiving a blow is not

immediately painful many times. The stunning effect is much more commonly described. Now, that's perhaps outside the realm of many -- experience of many people in the academic or the white collar world. But those people who have engaged in martial arts or collision sports may be more familiar with the -- the differentiation between the act of -- the immediate impression of receiving a blow versus the painful aftereffects that occur several seconds later.

Q. Dr. Williams, do you agree that being hit in the chest with a baseball bat can be extremely painful?

A. I suppose it can be, uh-huh.

Q. Is it painful if a gunshot wound hits a bone?

A. Can be.

Q. Can it be extremely painful?

A. Hitting the bone isn't the painful part. It's the fracture that is the painful part, the result in fracture. Fractures of the long bones typically are very painful, not so much in the -- in the -- again, in the immediate postinjury period, the first few seconds afterwards. Most people don't report pain at that time, but they start to report pain several seconds to several minutes after, as the fracture moves. So, you know, they -- the experience of pain is, again, very subjective.

Q. But you agree that when a gunshot wound hits a

bone, it can be extremely painful?
A. It can be.
Q. How many times have you personally received a gunshot wound, Dr. Williams?
A. One time.
Q. Was it painful when you were shot?
A. No.
Q. Not at any point thereafter?
A. I began to experience pain about three hours later.
Q. And were you treated for that pain?
A. I was.
Q. How so?
A. I was given a shot of Demerol.
Q. Did you have any other treatment for that pain?
A. No, same shot.
Q. Were you shot in the shoulder?
A. Yeah.
Q. And in the shoulder is not where an inmate under Utah's protocol would have the target placed, is it?
A. Absolutely not.
Q. Nor is the shoulder where an inmate under the U.S. Army's protocol would have the target placed, is it?
A. No.
Q. Did you drink alcohol the day you were shot?

A. I did not.
Q. Was it shocking when you were shot?
A. I was stunned, yes.
Q. Did you feel any adrenaline?
A. It's hard to say. I'm sure that there was a response, but I -- I don't recall having a sense of a panic or -- I guess I must have had something of that nature. It was a long time ago, yes.
Q. How old were you when you were shot?
A. I was 18.
Q. How many bullets were you shot by or with?
A. One bullet.
Q. What type of gun fired the bullet?
A. A pistol.
Q. Do you know what type of pistol?
A. It was a Browning automatic pistol.
Q. What caliber bullet were you shot with?
A. It was a Winchester magnum rimfire.
Q. And did you drive yourself to the hospital?
A. I did.
Q. Besides the narcotics medication you received, did you receive any other medical treatment?
A. I was kept overnight in the hospital for observation. The next morning, my family doctor came in and examined me and said, I think we should take the

bullet out. And so he took me to the operating suite and removed the bullet, then I was discharged home that afternoon.

Q. Do you agree that during an execution by firing squad, a bullet could hit a bone?

A. Almost certainly it will.

Q. Which bone?

A. Most likely -- well, the -- the sternum is the obvious first place the bullets will hit. Because you're dealing with high-powered rifles, these bullets will also impact the thoracic spine. It's unlikely that a rib would actually be hit, but I suppose if there's a bullet that erred by a few inches that a rib might be hit as well.

Q. Do bones have nerve endings?

A. Bones do have -- have -- do have nerves, yeah.

Q. And do these nerves include pain receptors?

A. They do.

Q. Does the ribcage protect the heart?

A. The bony cartilaginous structure of the chest -- of the ribcage does protect the heart to some degree, yes.

Q. How many ribs are in a typical ribcage?

A. You've got 12 ribs on each side.

Q. So is that 24?

A. Yes.

Q. Can a bullet to one of these 24 ribs be very

painful?

A. It could be.

Q. Does the sternum protect the heart?

A. It lies in front of the heart, yes.

Q. And what is a typical sternum's width?

A. Typical sternum is about 5 to 7 centimeters in width in a male, and it's about 6 to 8 millimeters in depth.

Q. And what is a typical sternum's length?

A. Well, about 30 centimeters in vertical presentation.

Q. And do you agree that it can be very painful to have a bullet hit a sternum?

A. It can be. Sternal fractures can -- can be quite painful.

Q. Do you agree that a gunshot wound to the spine can be painful?

A. My understanding is that it tends not to be, but I -- the injury to the spine itself doesn't seem to be as painful in patients that I have dealt with. They don't have as much pain in that region as they do in the anterior chest.

Q. Is the anterior chest from the ribcage and sternum?

A. Yes, sir.

Q. Do gunshot wounds to the chest often produce spinal injuries?

A. Yes.

Q. Do you agree that all gunshot wounds are contaminated with bacteria that was brought by the bullet?

A. Well, that's a common misconception. There may be some bacteria on the bullet itself from being handled that will be carried with it. The bullet is certainly not sterilized by the gunshot, the active firing of the bullet. And then as the bullet passes through the skin, it will break the skin, and that opens the wound channel to bacteria that colonize the skin. Of course, if there's clothing in between, the -- there may be bacteria and other fungi and viral particles on that clothing that would contaminate the wound as well. So, yeah, those would all be -- those would all be in operation here.

Q. So I guess I'm not sure I understand your answer. Do you agree that all gunshot wounds are contaminated with bacteria brought by the bullet?

A. Theoretically, they are. We don't see a lot of infections in gunshot wounds because the -- for a lot of reasons. But there are bacteria that are brought in, no question.

Q. Do you see this document in front of you, Dr. Williams?

A. I see it.
Q. Is this the gunshot wounds article by Dr. Fackler that you provided to your counsel?
A. It looks like it.
Q. And do you see here, this sentence: All gunshot wounds are contaminated with bacteria?
A. Yes.
Q. Do you agree with Dr. Fackler?
A. Yes, and I think it's consistent with what I told you in my previous testimony. Yes, there's -- there is a degree of contamination with all gunshot wounds.
Q. And that's on page 201.
MR. MITCHELL: And we'll have that marked as, I think, Exhibit 3.
THE COURT REPORTER: That's correct.
MR. MITCHELL: Because I don't -- I don't think we marked the Utah or Army's protocol.
THE COURT REPORTER: You did not.
MR. MITCHELL: While we're at it, let's just go ahead and do that real quick.
(WHEREUPON, documents were marked as Exhibit Number 3.)
BY MR. MITCHELL:
Q. Dr. Williams, you recognize this document?
A. Scroll down a little further.

Q. Tell me when to stop.
A. Yeah, this is the Utah protocol.
Q. That you relied on in writing your report?
A. Yes, sir.
Q. Okay. Dated June 10, 2010?
A. Yes.
MR. MITCHELL: We can make that Exhibit 4, please.
(WHEREUPON, a document was marked as Exhibit Number 4.)
BY MR. MITCHELL:
Q. And, Dr. Williams, is this the U.S. Army protocol dated April 7, 1959, that you relied on in drafting your expert report in this litigation?
A. Yes, this is it.
Q. And this is the more recent of the two U.S. Army's protocols that you relied on in drafting your report in this litigation, correct?
A. Yes, it is. Yes, it is. I misstated the date when I said 1958. It's a 1959 document.
MR. MITCHELL: If we could mark this as Exhibit 5, please.
(WHEREUPON, a document was marked as Exhibit Number 5.)
BY MR. MITCHELL:

Q. Dr. Williams, have you ever treated an individual who was shot in the heart by a gun?
A. Yes.
Q. How many times have you treated someone who was shot in the heart by a gunshot bullet?
A. I don't know the exact number, 15 or 20 times perhaps, perhaps less.
Q. Were those people -- were any of those people in pain who had been shot in the heart?
A. I don't recall anybody expressing pain. They were too sick to express pain.
Q. Did they express any discomfort?
A. They were people who were fighting for their lives. They were not really conscious to the degree that you and I would consider capable of responding in a meaningful fashion.
Q. Did those people seem discomforted in any degree?
A. These are people who are in very great distress from a medical perspective. Discomfort is -- is -- I don't know if you would describe discomfort as being extraneous to the decision -- or to the -- to the expression. These are people with compromised hemodynamics. Their level of consciousness would have been impaired to some degree by the injuries they had sustained. But were they -- were they experiencing

discomfort? I couldn't tell you.

Q. Were all of these people on pain medications by the time you saw them?

A. No. Very few of them, if any, were. When people have sustained injuries of this type, your primary consideration is maintaining hemodynamic integrity. Pain medication, narcotic pain medications, are going to compromise that, so we tend not to treat that with pain medication.

Q. Have you ever treated a gunshot wound to the sternum?

A. That would be with the gunshot wounds to the heart that I've dealt with, yes.

Q. But not a separate gunshot wound to the sternum?

A. I don't recall ever seeing anybody with a sternal gunshot wound that wasn't either already dead or actively dying from the gunshot wound to the heart. I don't recall one.

Q. Have you ever treated someone who was shot in the ribcage?

A. Yes, several times.

Q. How many times?

A. Twenty-five, 30 times, more than that. No, probably more than that. Maybe 80 or 100 times.

Q. How many people of those people survived?

A. People shot in the ribs, most of them survived. If it was -- let's put it this way: If the gunshot wound was to the lateral chest wall involving ribs or otherwise, most of those people would survive.

Q. Going back to the cardiovascular bundle, does the cardiovascular bundle include the arteries?

A. Yes, sir.

Q. Which arteries?

A. The aortic root, the aortic arch, the arteries branching off the aortic roots, the coronary arteries, the common carotid, the innominate, those arteries.

Q. Are there any arteries not included in the cardiovascular bundle?

A. Well, there's a lot of arteries in the body that aren't part of the cardiovascular bundle, yes.

Q. Can you name a couple of examples?

A. The descending aorta, femoral arteries, subclavian arteries, brachial arteries. Lots.

Q. And are veins also included in the cardiovascular bundle?

A. Yeah, I referred to those earlier. The pulmonary veins from the left and right side, the pulmonary trunk, inferior vena cava, superior vena cava, the sinus -- venous sinus, those would all be venous structures.

Q. And are there any veins that aren't included in

the cardiovascular bundle?

A. Lots and lots. For every artery in the body, there's a corresponding vein.

Q. Can you give us a couple of examples of veins that aren't included in the cardiovascular bundle?

A. Just take those veins I already gave you, cross out artery and put veins. So subclavian, femoral, iliac, and so forth.

Q. What about capillaries, are those part of the cardiovascular bundle?

A. There are capillaries therein, within it, but they're -- those are minor structures, not anything that you would consider as relevant to a gunshot wound.

Q. Now, how does blood travel to the brain?

A. It travels out of the left ventricle into the ascending aorta, and then it's sent to the branches leading superiorly off the aortic arch with the innominate vein and the common carotid. Those are the ventricle and go forward, go up through the neck and into the -- into the head and supply the brain.

Q. Did you say the common carotid artery?

A. Yeah, I'm sorry. I'm drawing a blank. The carotid -- I'm sorry. I'm drawing a blank. There's three -- there's three arterial trunks that came out off the aortic arch that go up to the brain. For lack --

Q. Are those all arteries?
A. Yeah, those are -- those are the three arterial branches off the aortic arch that proceed superiorly and provide all the blood to the brain and the upper extremities.
Q. And if one of those arterial branches ceases to carry blood to the brain, can the other two continue to carry blood to the brain?
A. They can.
Q. Now, if blood supply to the brain ceases, how long does it take for loss of consciousness to ensue?
A. With all loss -- with loss of all circulation to the brain, it's widely considered to be 6 to 10 seconds before conscious function ceases.
Q. Can it be longer?
A. It can be.
Q. How much longer?
A. If the individual -- if the individual hyperventilates for a period of time prior to the execution, that would be longer. There's not a lot of literature to support this. The only -- the only -- and it's a rather interesting case. There was a physician in France, during the Reign of Terror, who was executed by guillotine, and he and his colleagues had a conference prior to the execution, and he -- they were -- they were

all genuinely interested how long the brain was conscious after the severing of the head. And so he advised his colleagues that he -- since he would be unable to speak, he would communicate to them by blinking his eyes and looking at them.

When the executioner raised his head out of the basket to display it to the crowd, this individual, when his head had been severed, was able to continue blinking and looking at his friends for, I believe, it was 16 seconds after the -- after his head had been severed. So that's the longest we have any record of -- an antidotal record of someone being conscious and alert after there was no further circulation to the brain.

Q. Could it be several minutes?

A. No.

Q. Does brain death necessarily follow loss of consciousness?

A. No. Lots of people lose consciousness and don't die. But in this circumstance, brain death would certainly follow, yes.

Q. What is brain death?

A. I would have to look at my definition on that again, but -- because I haven't memorized it. But, essentially, that would be the loss of organized neural activity such that there's impulses being sent from the

brain to the rest of the body, giving the body commands and knowing how to keep functioning. That is usually -- it can be measured, to some degree, by -- excuse me -- by electroencephalogram, looking at brain wave activity.

When there's no further brain wave activity, that's considered to be a sign of brain death. But the actual moment of brain death has never really been defined, to my knowledge, in medical literature.

Q. Is pulmonary edema a frequent consequence of brain death?

A. Pulmonary edema.

Q. Yes.

A. No. No.

Q. Is one of the articles you supplied your counsel with Dr. Young's Diagnosis of Brain Death?

A. Yeah, I believe so.

Q. Is this that document?

A. It could be. Yeah, if it's from Uptodate, yeah.

Q. Is this document you supplied your counsel?

A. I believe it is. It looks familiar.

Q. By Dr. Young?

A. Yes, sir.

Q. Do you see there at the very bottom of page 14 of this article where it says: Pulmonary edema and diabetes insipidus are frequent early consequences of brain death

and may also precipitate cardiopulmonary failure?
A. Yeah, this is referring to deaths in the -- the ICUs or a critical care situation where a person has experienced brain death, but still has active cardiac function.
Q. Do you agree that pulmonary edema can be a consequence of brain death?
A. In that setting, yes.
Q. In any other settings?
A. No. I mean, pulmonary edema is something that develops over hours to days. It's not something that happens rapidly as a consequence of shutdown of brain function. If you -- you're looking at a person who's been shot in the cardiovascular bundle, whose heart ceases to function, and the person dies, on autopsy, you're not going to find pulmonary edema because it takes a long time to develop.
MR. MITCHELL: And if we can have that article by Dr. Young marked as -- I believe we're on Exhibit 6.
THE COURT REPORTER: We are.
(WHEREUPON, a document was marked as Exhibit Number 6.)
BY MR. MITCHELL:
Q. Now, Dr. Williams, in the copy of Utah's Firing

Squad Execution Protocol that you relied on in drafting your report, does that protocol take in account the fact that 10 minutes after the first volley of bullets, signs of life may still be present?

MS. LEONARD: Object to the form.

THE WITNESS: I'd have to review the -- no, the Utah article -- Utah protocol has fail-safes built into it such that there would not be signs of life that late. They've got a fail-safe in there saying up to 10 minutes, I believe. But the -- the protocol is very clear that if the individual shows signs of life within -- I believe it's two minutes, the leader of the execution squad is authorized to fire a second volley, which to my knowledge has never happened with any Utah execution after a second volley being fired -- sorry, a second volley has been fired a couple of times.

But I've never -- I've no knowledge of Utah ever refiring more than a second volley. And in, at least, one of those cases, that second volley was fired very rapidly, like within one minute.

BY MR. MITCHELL:

Q. How many cases are you aware of where Utah fired a second volley?

A. Sorry, can you say that again.

Q. How many executions in Utah do you know of that

required or -- or let's not use required. Excuse me. Let me -- let me rephrase.

How many executions in Utah had a second volley fired?

A. Two, to my knowledge.

Q. Dr. Williams, is this your expert report in this case?

A. It is.

Q. And do you see here where you're summarizing Utah's protocol?

A. Yes.

Q. You stated that signs of life will be checked for by the attending physician for a maximum of 10 minutes?

A. Right.

Q. And that if signs of life are still present, then a second volley shall be fired?

A. Uh-huh.

Q. And so do you agree that ten minutes after the first volley, signs of life may still be present and a second volley fired?

A. You know, there's a theoretical possibility that if you're checking every one minute, you're still seeing signs of life, you're firing a volley subsequent to that each time, which is what the protocol asks for. This would suggest that at 10 minutes this individual would've

received 30 rifle wounds to the chest, at least 30 rifle wounds to the cardiovascular bundle. So the probability that there would be any life signs 10 minutes into this process is fantastically improbable.

Q. So is it your understand of Utah's protocol that every minute, after the first three minutes, that signs of life are present as determined by the attending physician, another volley is fired up to 10 minutes?

A. If that -- I mean, you see the section. If, after that first volley, the condemned shows obvious signs of life, consciousness, a second volley shall be immediately fired. So, in other words, if the individual is still moving immediately after the first volley, the execution leader -- execution squad leader can authorize a second volley fired immediately.

They load their rifles with two rounds. The only times that those two rounds have been required have been in two executions, that I know of. In both cases, two volleys were sufficient to end the individual's life. The possibility that a third volley would be required is fantastically improbable.

Q. But is it possible that a sign of life may be present after 10 minutes and then a second volley is fired?

A. Within the realms of any kind of scientific

possibility, no.

Q. Do you know when the U.S. military last conducted an execution by firing squad?

A. The last execution that I'm aware of was 1947. There may have been one in early 1948 as well, but I can't confirm it.

Q. In preparing your expert report, did you review Tennessee's lethal injection protocol?

A. No, I did not.

Q. Have you subsequently reviewed Tennessee's execution protocol?

A. I have not.

Q. Do you know which drugs Tennessee protocol calls for?

A. I do not.

Q. Did you review any depositions from this case?

A. Depositions from this case? No, I did not.

Q. So you cannot informatively opine on the risk of operator error in Tennessee lethal injection protocol, can you?

A. Specifically, no, I cannot.

Q. And did plaintiff's counsel engage you to opine on the risk of operator error in Tennessee's lethal injection protocol?

A. They did not.

Q. Is it your view that a botched execution is one that ends up taking an hour or two?

A. I don't have a view on that. A botched execution, it can be defined in a lot of different ways by a lot of different people. I don't really -- I don't really have an opinion, in general. Certainly, if something that keeps somebody alive for an hour, yeah, that would be -- I think that would hit -- hit the standard of botched.

Q. Do you agree that when performed appropriately, lethal injection provides us with, arguably, the quickest and most humane method of deliberately ending life?

A. I believe it could be the most humane, if -- if performed correctly. Given that assumption, I think it's probably the most humane.

MR. MITCHELL: Counsel, can we take a break? It's almost lunchtime.

MS. LEONARD: That's fine with me. How long do you want to go for?

MR. MITCHELL: Thirty minutes, say 12:30 Central?

MS. LEONARD: Sure, that's fine.

MR. MITCHELL: Does that work with you, Dr. Williams?

THE WITNESS: Fine.

MR. MITCHELL: Thank you.

THE WITNESS: Thank you.

(WHEREUPON, a lunch break was taken at 11:50 a.m. The deposition resumed at 12:23 p.m.)

MR. MITCHELL: Lynne, are you prepared to proceed?

We are back on the record.

BY MR. MITCHELL:

Q. Dr. Williams, we just took a break for about 30 minutes. During that break, did you speak with anyone?

A. Yes. I spoke with plaintiff's attorney, Lynne Leonard. She pointed out to me I might have made an error in my earlier testimony regarding depositions that I reviewed in preparation for this case.

I did review a deposition from Utah Department of Corrections in preparation for the case, but I did it at the same time as my preparation for the Nevada case, which was actually the week of the trial, so I mixed it up. But that is also in my preparation for the case. I wanted to clarify that.

Q. Do you know whose deposition or what deposition that was that you reviewed?

A. I believe that was the warden who was testifying as to the physical attributes of the Utah death chamber.

Q. Was that deposition taken specifically in this litigation?

A. I don't know if it was this litigation or it was a different -- a different case. I'm involved in four different cases right now, Mr. Mitchell. Sometimes they bleed into each other.

Q. Well, give me just a second.

And here on your expert report, do you see where, Number 4, it says you have reviewed the deposition of Steven Turley in this case?

A. Yes.

Q. Is that what we are speaking about?

A. I think it is, yes.

Q. Okay. Did Ms. Kur -- or, excuse me -- Ms. Leonard remind you of any other materials you reviewed?

A. No. That was the sole content of our conversation.

Q. Did you speak to anyone else during our break?

A. No.

Q. Did you review any materials during our break?

A. No.

Q. Dr. Williams, have you ever improperly placed a central IV line?

A. Do you mean like an IV line, a central line that -- improper is kind of a vague term. What are you specifically looking for, Mr. Mitchell.

Q. Well, have you ever placed a central IV line that

you had to rearrange or replace?

A. I've placed a lot of central lines in 30 years, Mr. Mitchell. I'm sure I've had a few that have required -- yeah, I can think of an example in the last year or so. I placed a subclavian line -- that was the triple lumen catheter -- that I advanced was faulty or it -- it became bent during insertion and I was not able to place it in the same location. I had to go to the other side and use the other -- the contralateral subclavian vein for access.

That is a pretty rare occurrence, but it's happened to me, maybe, two or three times over the course of my career. That would be about it. The central lines are pretty critical; you either make them work or the patient is in real trouble. So that would be about the worst I've had to deal with.

Q. Is it your testimony that you only improperly placed a central IV line two or three times over the course of your career?

A. To the best of my recollection, yeah.

Q. Dr. Williams, have you served as an expert witness in the Glossip versus Chandler case in Oklahoma?

A. Yes, I have been engaged on that case.

Q. And do Ms. Kolodinsky and Mr. Kursman also represent you in that case?

A. I believe so, yes.

Q. And did you give testimony or a deposition in that case about a year ago, January 25th, 2021?

A. I don't recall it being that late, but I'll take your word for it. Yes, it was last year.

Q. Do you see this document?

A. I see it.

Q. Do you recall this deposition being taken in the Glossip case on January 25th?

A. I do.

Q. Can you read to me what the question was at line 23, in your deposition.

A. (Witness reading.) How many times have you improperly placed a central IV line in a patient.

Q. And what was your answer?

A. Well, I don't recall specifically what I said. I've had an opportunity to think about it since then, which is why I told you, two or three times, that I don't recall specifically what I said at that time. We can read what I said.

Q. Yeah. What did you say? What does line 25 say you said?

A. (Witness reading.) I didn't improperly place a central line.

Q. And you said: In what percent of your central lines did you improperly place a central line?

A. Yeah. I said: I've done thousands of central lines, I don't know. Twenty, 30, 40, 50, I don't know. Certainly less than a hundred.

I've had opportunity to review that, to the best of my ability, since that time and I realized that my rates of failure in central lines is well below the margin, looking at cases. Unlike gunshot wounds, which are tracked on a regular basis in procedure logs, central lines aren't.

I've been able to review my procedure logs and I haven't had a failed central line, improperly placed, that I put as far as back as I have been able to research. I've had two or three where I've had problems with the equipment that required me to go to another location. These are the ones that I just spoke to you about at this time.

MR. MITCHELL: I'm going to object to the answer as nonresponsive.

BY MR. WILLIAMS:

Q. Dr. Williams, in what percent of your central lines was the line improperly placed? In your testimony on January 25th, 2021, what did you testify was the percent of your central lines that were improperly placed?

A. I guess that perhaps 2 percent of my central lines have been improperly placed, because I was unprepared for

the question and did not have the facts in my head. I have since looked at those and the numbers are significantly less than 2 percent.

Q. And how were you able to look at those?

A. I was able to access my procedure logs at two different hospitals where I have done procedures in the emergency department. And for the period of time that we are looking back on, back to 2016, none were improperly placed. And as I looked further back, in my memory, I couldn't think of another one.

So improperly placed central line, Mr. Mitchell, would be one that did not cannulate the vein that was, for lack of a better word, the target of the procedure. And I can only recall a single time, back when I was a resident, where I had a central line procedure be improperly placed where I went through the subclavian line and cost me my thorax. And yet, during the same procedure, I corrected the problem and then placed it correctly.

So my recollection and statement, as a guess of 2 percent last time, was erroneous. And I have been able to ascertain, to my satisfaction, that my successful percentage in central line placement is very close to 100 percent over the course of my career.

I'm considered to be very good at placing central lines. And, in fact, I am usually, almost, almost always,

when I'm working with another physician in my emergency department, the nursing staff requests that I do the central line because my success rate is so high.

MR. MITCHELL: I'm going to object to that answer as nonresponsive.

BY MR. MITCHELL:

Q. How many hospitals were you able to review your records for placement of central lines?

A. I was able to review procedure logs for two hospitals.

Q. And how many hospitals have you placed central lines in, during the course of your career?

A. Fourteen.

Q. So there are 12 hospitals you were unable to review procedure logs?

A. That's correct.

Q. How many times have you improperly place a peripheral line in a patient, Dr. Williams?

A. Peripheral lines, I would say 2 to 3 percent.

Q. How many peripheral lines have you placed in patients?

A. Thousands.

Q. And do you see on page 123 of you January 25th, 2021, testimony where you said that it was 10 to 15 percent of peripheral IV access attempts are

unsuccessful?
A. I would say in terms of the overall average, that's correct.
Q. So you're well above -- or below, in a good way, average; is that your testimony?
A. My expertise in cannulating veins are considered extremely expert.
Q. Yeah. So you still improperly placed a peripheral line hundreds of times; is that correct?
A. Looking back, 10 to 15 percent, that would certainly be the case. I'm well below that. I would say maybe a hundred times.
Q. Do you see on page 121 --
A. That's a guess, Mr. Mitchell. These are not things that are -- that are -- that I could possibly measure.
Q. Did you guess in your testimony on January 25th, 2021, that it was hundreds of times you did improperly place a peripheral line in a patient?
A. Uh-huh. Yeah, I was guessing. I've had to -- I was not prepared for the question at that time, Mr. Mitchell, and, as a consequence, I had to -- I should not have said that. I should have said I don't know and left it at that. But I have had opportunity to review my recollection, to the best of my ability, since then, and

I'm -- and what records I can ascertain, it's certainly been much better than the average and certainly the guess I gave you last time. It was an overestimate of failure.

Q. Now, Dr. Williams, switching back to page 10 of your expert report, do you see the sentence that says: Current firearms injury data show that Americans intentionally or accidently shot by rifles die in about 80 percent of cases?

A. Yes.

Q. What is the basis for that statement?

A. As I recall, the footnote cites the "American College of Surgeons Advanced Trauma Life Support" textbook for students.

Q. Is that Footnote 10?

A. Yes.

Q. Okay. And that is Footnote 10, isn't it?

A. Yes.

MR. MITCHELL: If we could have this marked as Exhibit 7, I believe we are on; is that correct?

THE COURT REPORTER: That's correct.

(WHEREUPON, a document was marked as Exhibit Number 7.)

BY MR. MITCHELL:

Q. Dr. Williams, is this the "Advanced Trauma Life Support" manual you referenced a moment ago.

A. It is an ATLS manual. I'm don't know if it's the one I specifically referenced.
Q. Well, do you know if this is the one you provided to your attorneys?
A. I don't know. I have taken the death trauma life support multiple times and each time they issued me a new manual. It could be. I don't know. I don't keep track of them.
Q. You see where it says the copyright is 2018?
A. Yes.
Q. And, in fact, in Footnote 10, you cited the 2016 edition of the "Advanced Trauma Life Support" manual?"
A. That's what I see written here, yes.
Q. So you did not cite it to the basis of that statement on page 10 of your report, did you?
A. I cited to -- yeah, the citation may be erroneous, that's correct.
Q. Other than Utah's protocol for firing squad and the Army's protocol for firing squad, is there any other protocol for firing squad that you -- is there any other?
THE COURT REPORTER: Can you repeat your question?
MR. MITCHELL: Yeah.
BY MR. MITCHELL:
Q. Dr. Williams, other than Utah's protocol for

firing squad and U.S. Army's protocol for firing squad, did you review any other protocol for firing squad in anticipation of your expert report in this case?

A. I have not read or been made aware of any other protocol for firing squad, no.

Q. Can wind affect a firing squad shooter's ability to hit a target?

A. To a very small degree, yes.

Q. And can rain affect a firing squad shooter's ability to hit a target?

A. The effect of rainfall on bullets is theoretical and, as far as I know, it's never been measured. But you are correct. You are correct with that.

Q. Can it affect the shooter's ability to aim?

A. Oh, yes.

Q. How so?

A. Rainfall can reduce -- heavy rainfall can reduce visibility even in a relatively short distance. We've all been in severe rainstorms where that might happen. Similarly, the accumulation of water on the siting systems of the rifle might affect the ability of the operator to obtain a proper site picture.

Q. Is it possible for a rifle's site to be bumped and knocked out of alignment?

A. It is.

Q. Is it possible that shooters can be supplied with a faulty round of ammunition for a firing squad execution?
A. It is possible.
Q. Dr. Williams, turning back to your report in this case, did you insert a graphic from a Chicago Daily Tribunal article from 1938?
A. I did.
Q. Did you provide this article to your attorneys in this case?
A. I provided the copy that you see here, yes.
Q. Do you possess the complete article?
A. I do not.
Q. Have you ever?
A. I have never had the whole article.
Q. How did you receive this excerpt?
A. To the best of my recollection, this excerpt was obtained in the course of the death penalty case in which I was retained as an expert in the State of Ohio in 2018, I believe, might have been 2019. This case never went to deposition and -- was it Ohio? I don't recall which case it was, but it came from the federal defenders office in Ohio.
Q. Did the Court in that case in Ohio preclude you from testifying?
A. I don't recall.

Q. Did you plan to testify in that case?
A. I do not recall ever being asked to sit for a deposition or to testify at trial. No, I don't recall at all what stopped that case. It's kind of outside my wheelhouse.
Q. Dr. Williams, do you see this document?
A. I do.
Q. Do you see where it's titled, "U.S. Army Corrections System: Procedures for Military Executions?"
A. I do.
Q. Do you see at the bottom where it comes from the Department of Army's Headquarters in Washington, DC?
A. I see.
Q. Do you see where the date is January 17th, 2006?
A. I do.
Q. And do you see at the top of this, page 5, where it states that military executions will be by lethal injection?
A. I do.
Q. And these military procedures are from 2006?
A. It would appear to be so.
Q. And the U.S. Military procedures you rely on are from 1959 and earlier, correct?
A. That's correct.
MR. WILLIAMS: If I can have that marked as

Exhibit 8.

(WHEREUPON, a document was marked as Exhibit Number 8.)

BY MR. MITCHELL:

Q. Dr. Williams, you have treated, in your -- in the course of your time as an emergency department physician, hundreds of gunshot wounds; is that correct?

A. Yes.

Q. Were those gunshot wounds received by both men and women?

A. Yes. Mostly men, though.

Q. But women as well?

A. Some.

Q. What is the oldest person you have ever treated who received a gunshot wound?

A. Quite honest, I couldn't tell you. Some people have been, you know, fairly advanced, people in their seventies, perhaps, but I'm not sure.

Q. What is the youngest person you treated who received a gunshot wound?

A. I have seen gunshot wounds in individuals into their teens. I don't think I've ever seen anyone under the age of 14, 15, 16, but I might be wrong. I might be mistaken. I may have seen a pediatric wound.

Q. Dr. Williams, I'm going show you Exhibit 9. Do

you see here a post by Doc Rocket?
A. Yeah, it looks like mine.
Q. And did you write this?
A. It appears I did.
Q. Is the date here July 22nd, 2015?
A. Yep.
Q. And are you talking here about a surfeit of empty-headed young females who sought medical attention?
A. Apparently so.
Q. Did you treat any of these young men -- young females for medical attention?
A. It appears so.
Q. Do you see here at the top of page 2 where you stated: I have long held the opinion that if idiot young females were removed from the population, America would be a much healthier place?
A. Looks like I said that.
Q. Is that your opinion as a medical doctor?
A. That was my opinion as an upset individual at the time.
Q. Upset about something that happened in your professional capacity as a medical doctor?
A. Upset in my position as a citizen, looking at the cost of things like that.
Q. About a situation you encountered professionally;

is that correct?

A. Yes.

Q. Can you read for me the paragraph beginning "consider this?"

A. (Witness reading.) Consider this: The number one ER complaint in America is abdominal pain. Guess which sex accounts for 75 percent of abdominal pain in ER's is. Yep, females, most under 35. Guess what the most common cause in abdominal pain in ER's is. Constipation. Our health care system is spending billions of dollars annually to address the fact that most women have lousy dietary and bowel habits, and don't have a clue about how to deal with their own feces.

Q. Is it still your opinion, as a medical doctor, that most women have lousy dietary and bowel habits?

A. Most Americans have lousy dietary and bowel habits, women included.

Q. And did you also write this post at the bottom of page 4, top of page 5?

A. Sorry -- I think so. Can you pop it up so I can see the -- yeah, that's my post.

Q. Okay. What do you say in this post on July 22nd, 2015?

A. It says -- I wrote (witness reading): Don't get me started on an intoxicated, naked, and combative female.

My solution to same is Haldol. Early and often.

Q. Do you still recommend using Haldol early and often?

A. Haldol, but lately we've gone to Geodon. It's more effective more quickly, and it does tend to abort the combative behavior in a more rapid fashion.

Q. What is Haldol traditionally used to treat?

A. Haldol is a phenothiazine and psychotic medication. It's used to treat psychosis.

Q. And you use it to treat intoxicated, naked, and combative females?

A. When people are intoxicated and behaving in a manner that approach psychosis -- this is alcoholic induced psychosis -- the appropriate treatment is antipsychotic medication.

Q. And so you do use Haldol to treat intoxicated, naked, and combative females?

A. As well as intoxicated, naked, and combative males.

Q. But you only mention females in this post; is that right?

A. I believe that was the topic in this case, yeah. That was the parameter of discussion.

MR. MITCHELL: If I didn't say it already, we'll have this marked as Exhibit 9.

(WHEREUPON, a document was marked as Exhibit Number 9.)

MR. MITCHELL: Dr. Williams, I have no further questions for you, but because we haven't received all the materials responsive to the subpoena we issued, we are going to leave your deposition open. Thank you for your time.

THE WITNESS: Thank you, Mr. Mitchell.

MR. MITCHELL: Lynne, that is all I have, unless you have anything else?

MS. LEONARD: Nothing from me.

THE COURT REPORTER: Can I have orders on the record please, copies? I'm sorry, can I have copies on the record, please, orders for the deposition.

Mr. Mitchell?

MR. MITCHELL: We would like a PDF copy, please.

THE COURT REPORTER: Okay. Anyone else?

MS. LEONARD: We will also take one on the plaintiff's side, please.

THE COURT REPORTER: Okay. Thank you.

FURTHER THE DEPONENT SAITH NOT.

(Proceedings ended at 12:47 p.m.)

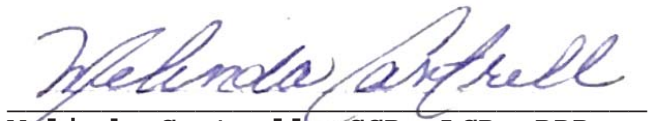
C E R T I F I C A T E

STATE OF TENNESSEE:

COUNTY OF HAMILTON:

I, MELINDA CANTRELL, Court Reporter, with offices in Chattanooga, Tennessee, hereby certify that I reported the foregoing deposition of JAMES S. WILLIAMS, M.C., M.Sc., by machine shorthand to the best of my skills and abilities, and thereafter the same was reduced to typewritten form by me.

I further certify that in order for this document to be considered a true and correct copy, it must bear my original signature, and that any unauthorized reproduction in whole or in part and/or transfer of this document is not authorized, will not be considered authentic, and will be in violation of Tennessee Code Annotated 39-14-149 Services.



Melinda Cantrell, CCR, LCR, RPR
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